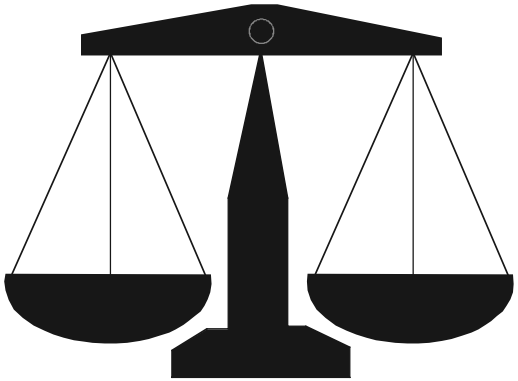
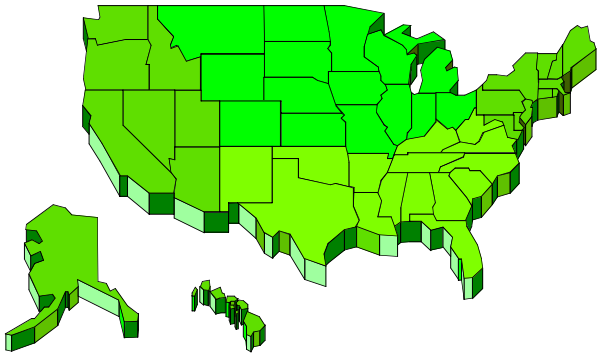




STATE OF THE LAND

Warren M. Lee, Natural Resources Conservation Service

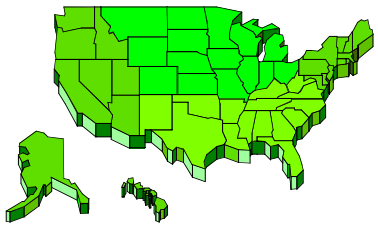
U.S. Department of Agriculture

CITIZEN EXPECTATIONS

- Abundant supply of fresh vegetables, fruits and meats
- Clean, drinkable water, at the faucet in their homes
- Lakes, rivers and streams to swim and fish
- Open areas for recreation, wildlife, and scenic beauty

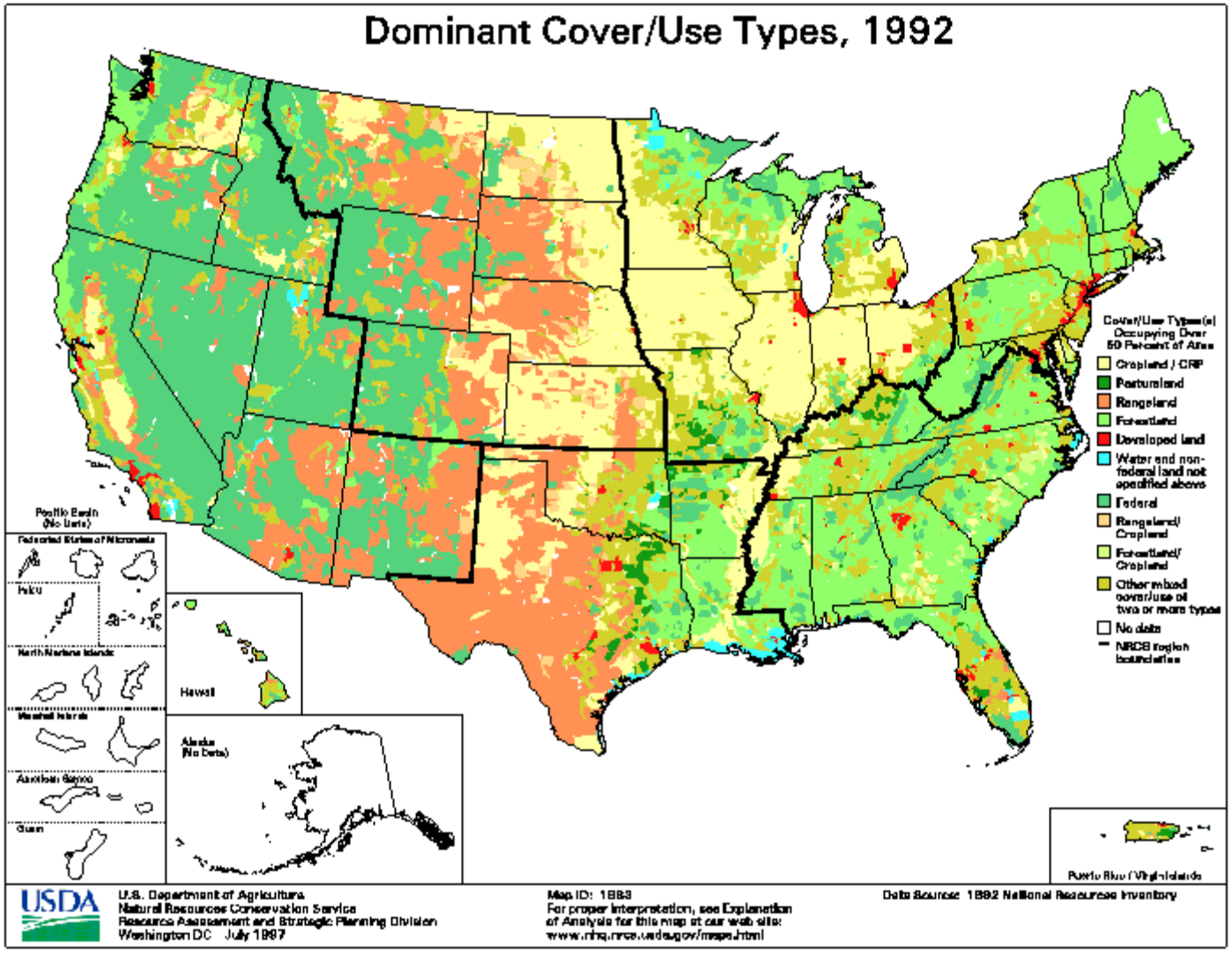
National Resources Inventory

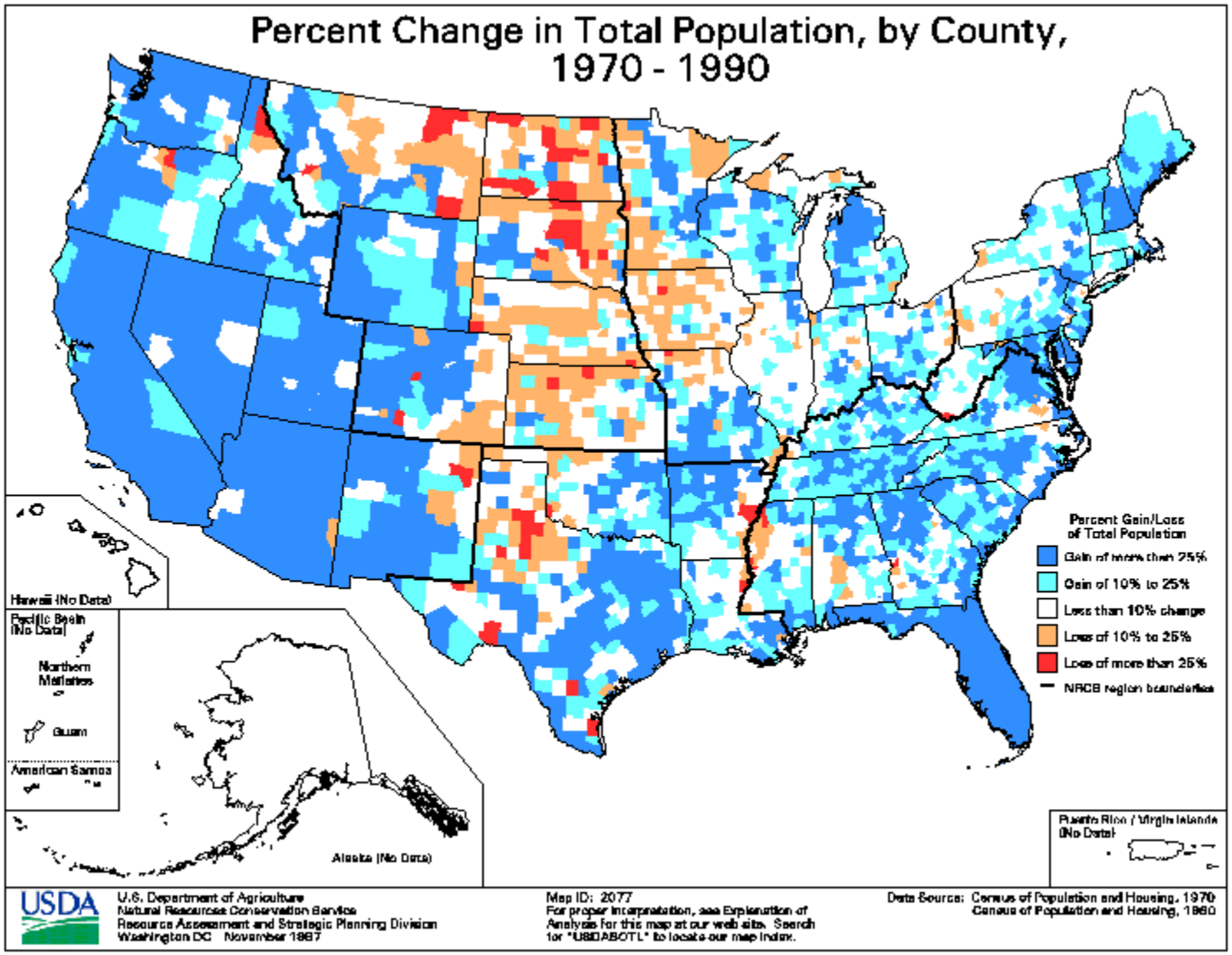
- Multi-resource inventory based on soils and other natural resources data collected at 300,000 sample sites - 800,000+ points
- Provides record of the Nation's conservation needs and accomplishments
- Completed on five year cycle since 1982

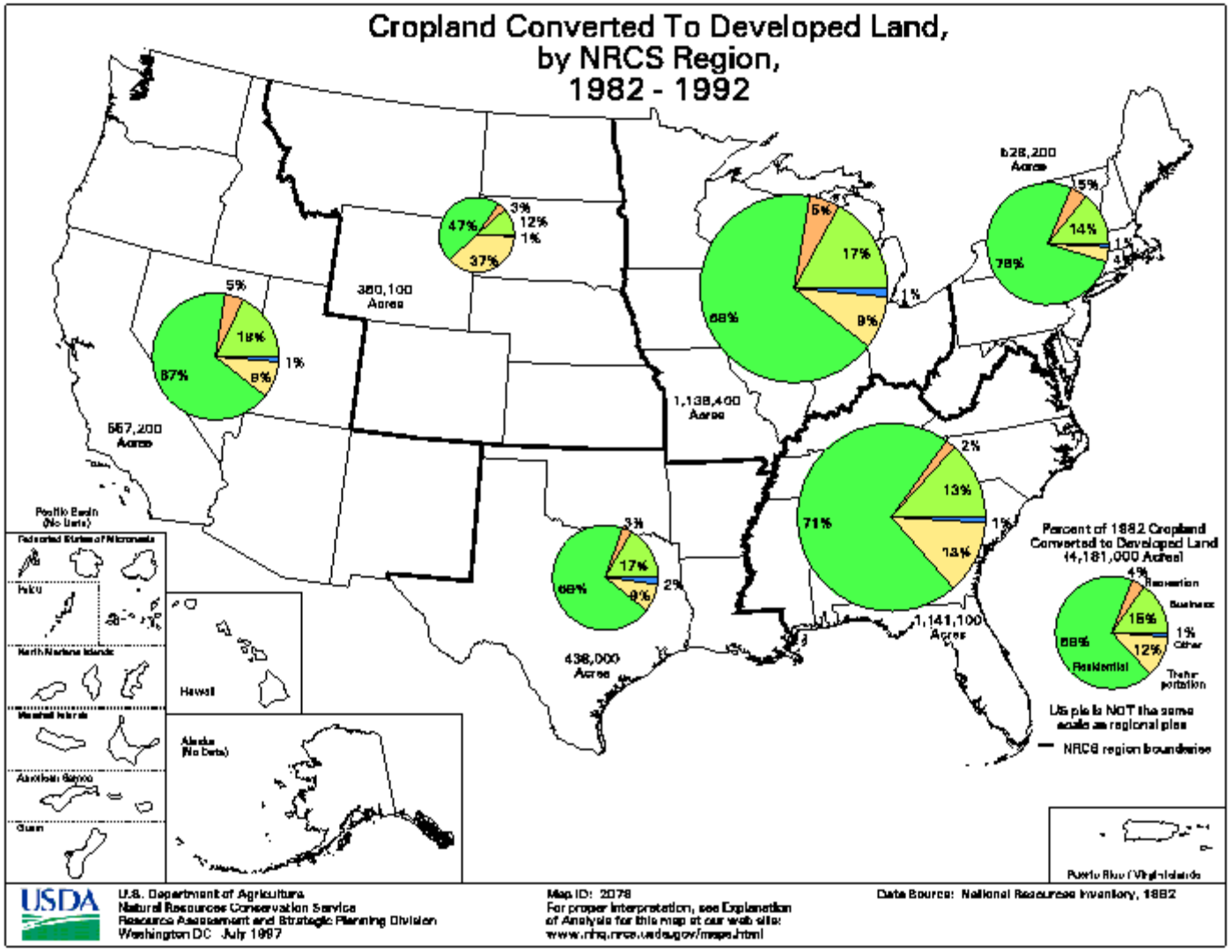


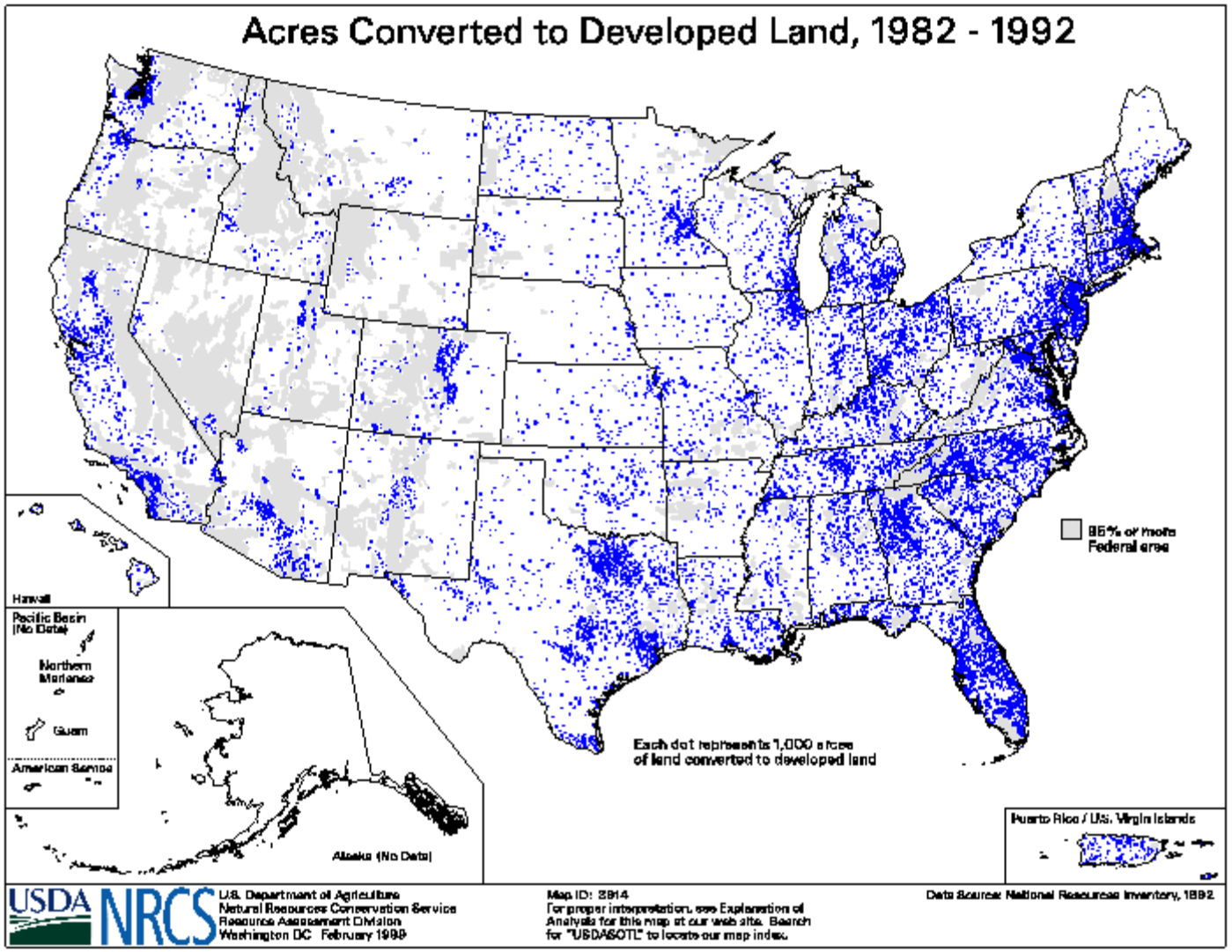
MAJOR ENIVONMENTAL PROTECTION STATUTES

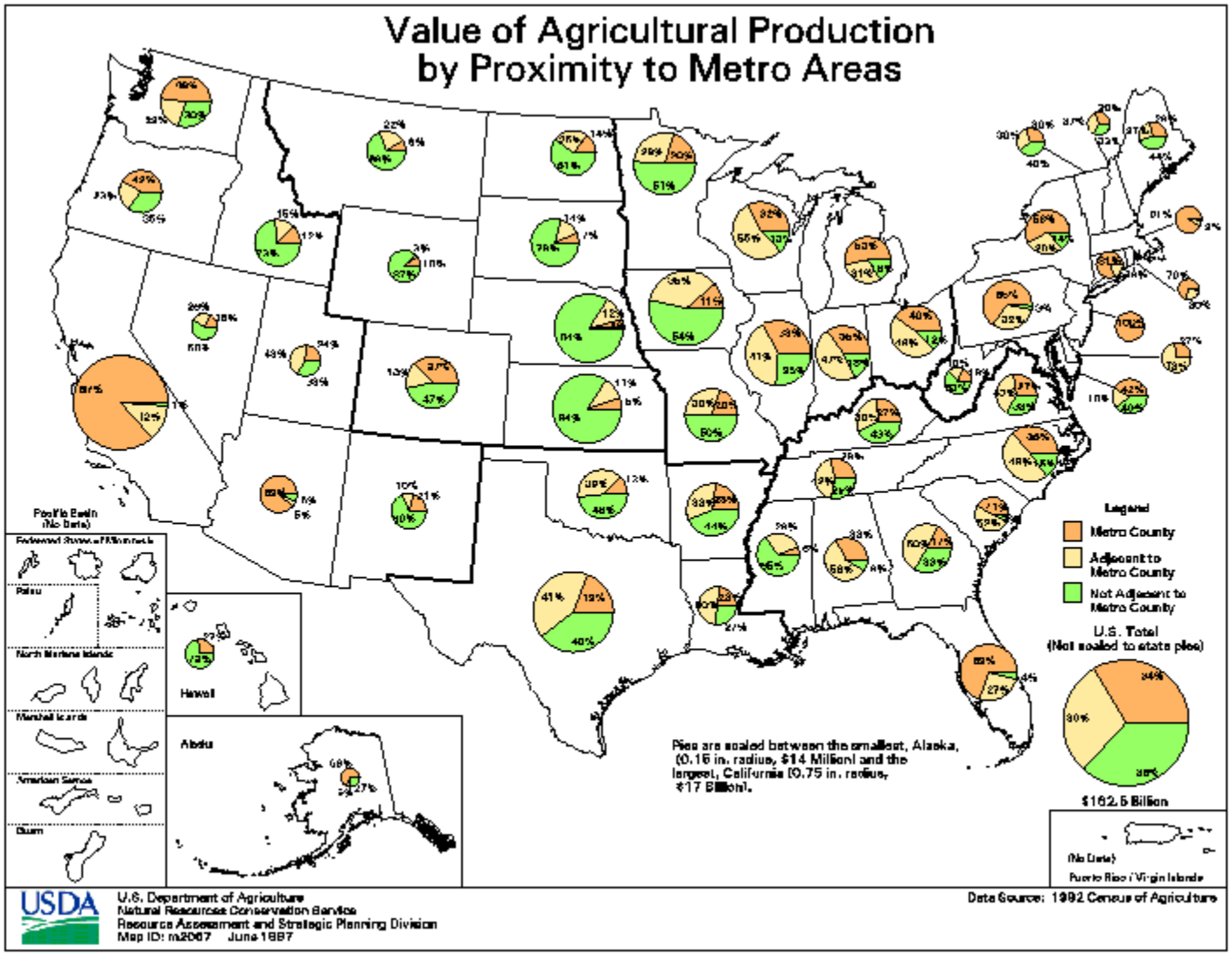
- CLEAN WATER ACT
- ENDANGERED SPECIES ACT
- FOOD SECURITY ACT of 1985, as amended

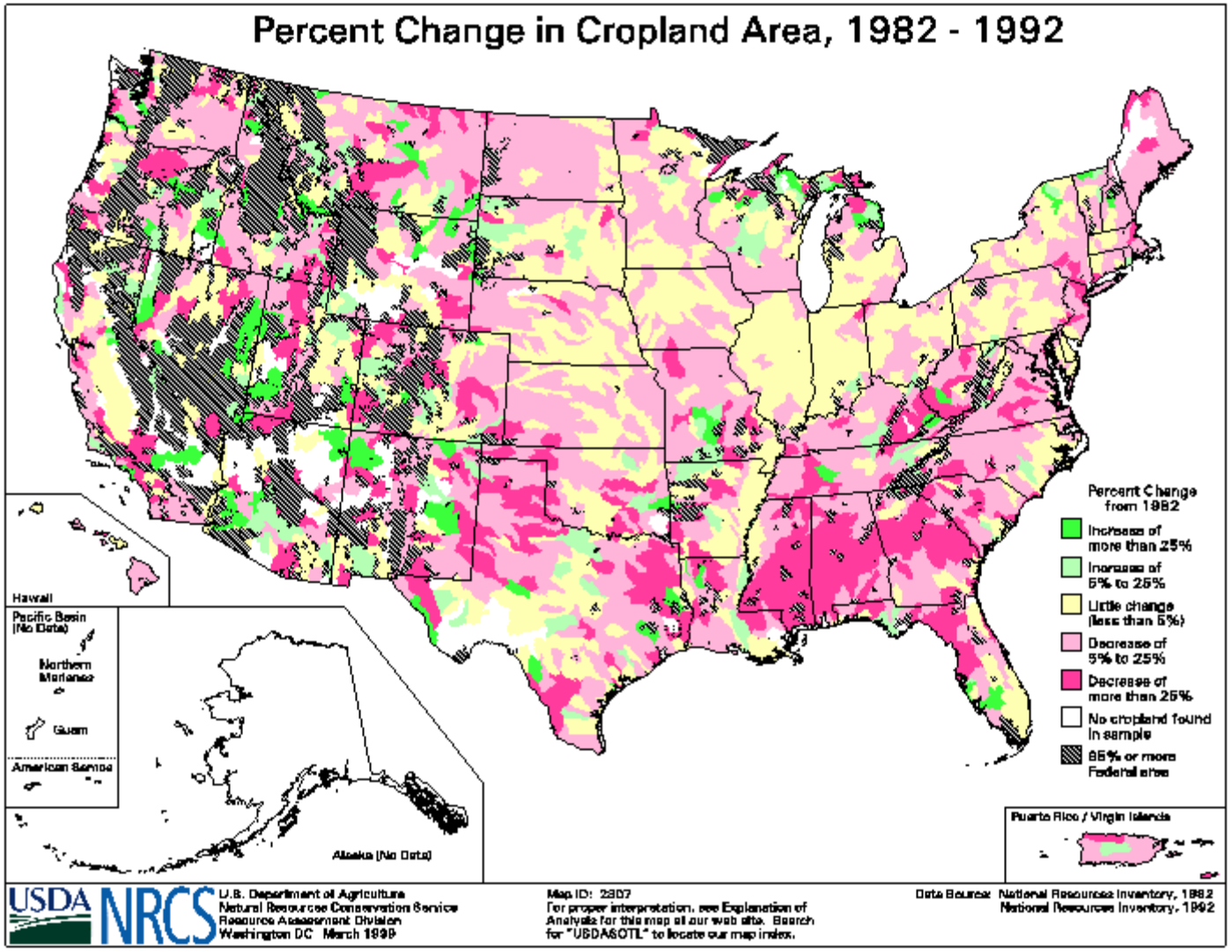

Dominant Cover/Use Types, 1992
Cover/Use Type(s) Occupying Over 50 Percent of Area
Cropland / CRP
Pastureland
Rangeland
Forestland
Developed land
Water and non-federal land not specified above
Federal
Rangeland/ Cropland
Forestland/ Cropland
Other mixed cover/use of two or more types
No data
NRCS region boundaries
Pacific Basin (No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC July 1997
Map ID: 1883
For proper interpretation, see Explanation of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory

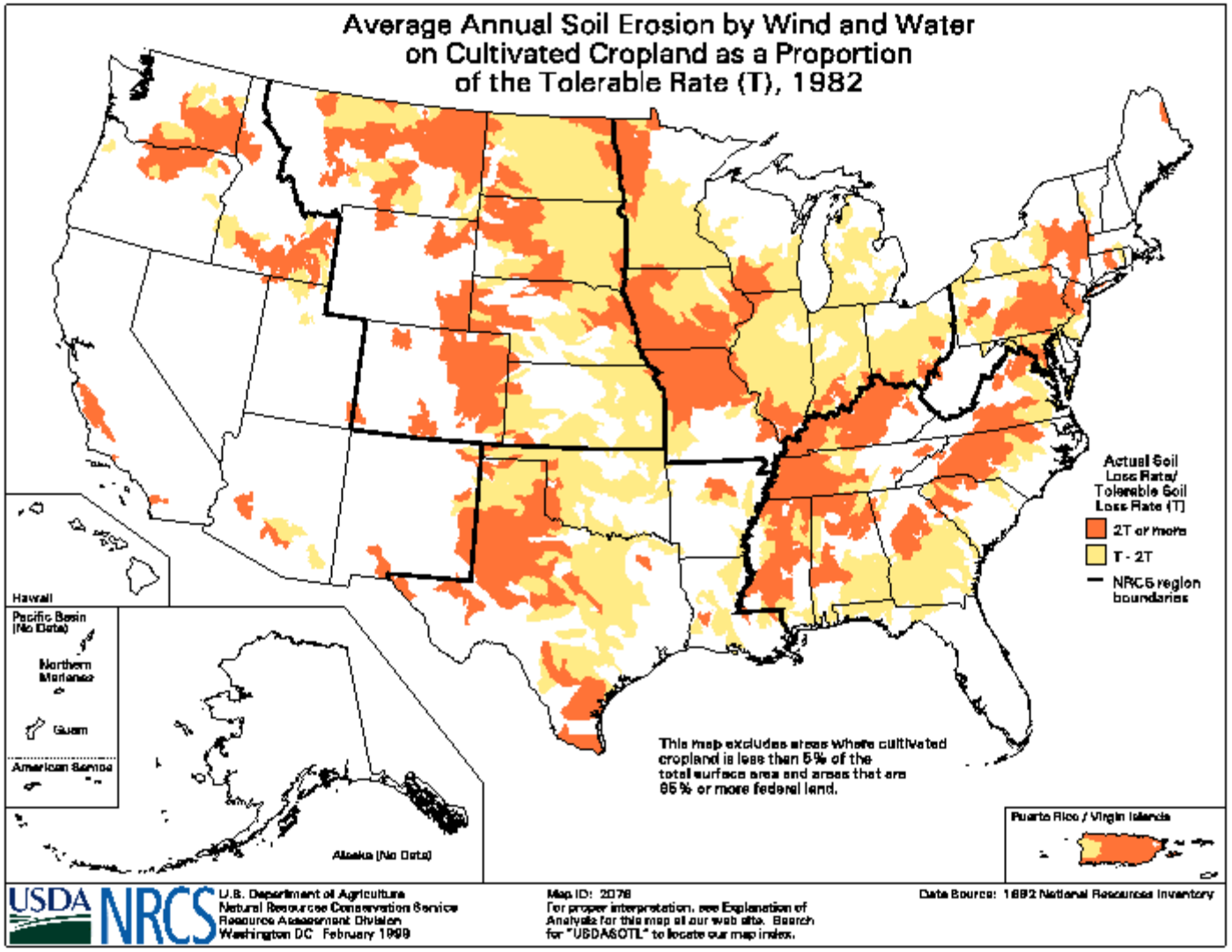

Percent Change in Total Population, by County,
1970 - 1990
Percent Gain/Loss
of Total Population
Gain of more than 25%
Gain of 10% to 25%
Less than 10% change
Loss of 10% to 25%
Loss of more than 25%
NRCS region boundaries
Hawaii (No Data)
Pacific Basin
(No Data)
Northern
Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
(No Data)
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC November 1997
Map ID: 2077
For proper interpretation, see Explanation of
Analysis for this map at our web site. Search
for "USDASOTL" to locate our map index.
Data Source: Census of Population and Housing, 1970
Census of Population and Housing, 1990

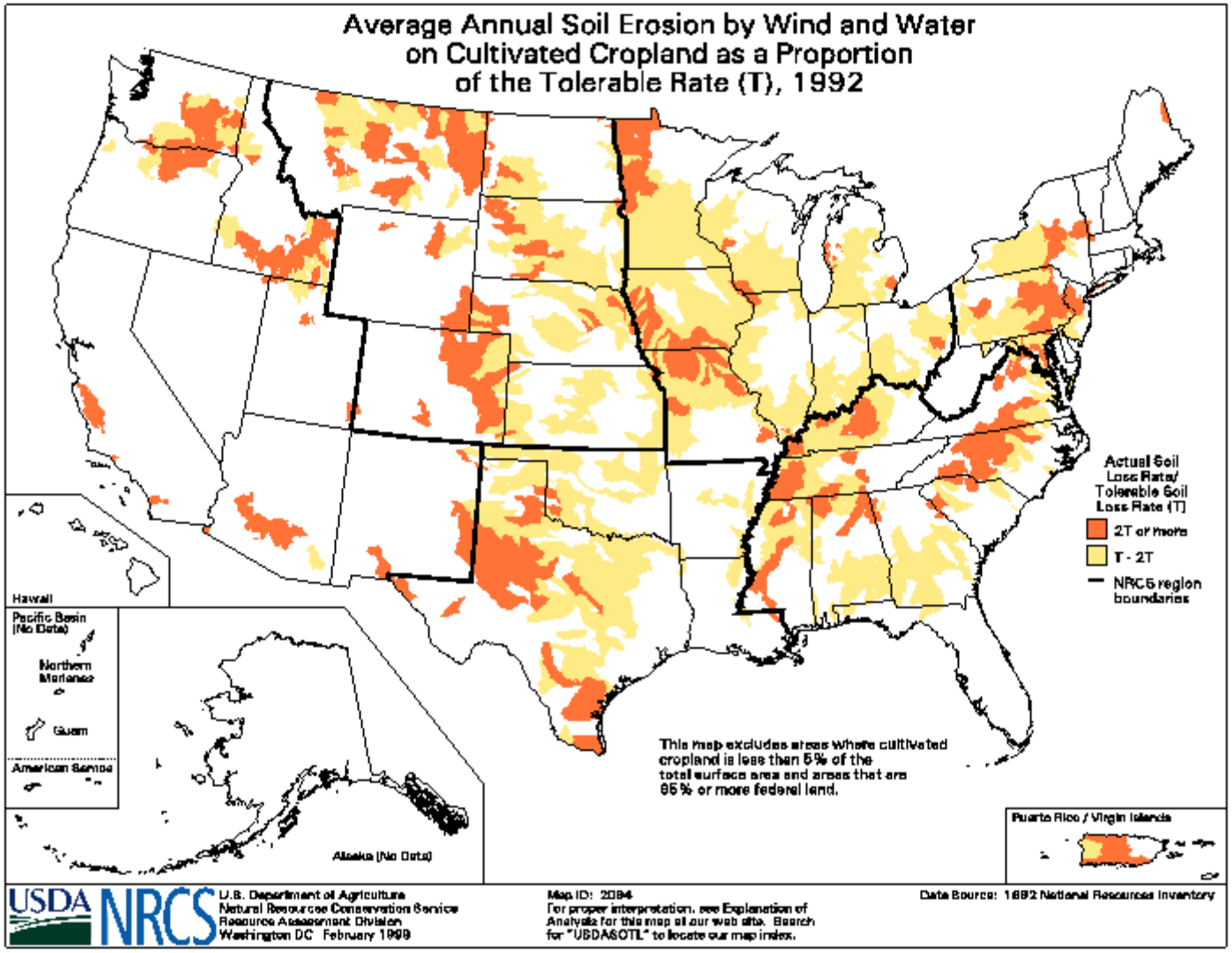

Cropland Converted To Developed Land,
by NRCS Region,
1982 - 1992
47%
3%
12%
1%
37%
380,100
Acres
5%
18%
1%
8%
87%
567,200
Acres
6%
17%
1%
9%
68%
1,138,400
Acres
628,200
Acres
5%
14%
1%
78%
3%
17%
2%
9%
68%
438,000
Acres
2%
13%
1%
13%
71%
1,141,100
Acres
Percent of 1982 Cropland
Converted to Developed Land
(4,181,000 Acres)
4%
Recreation
Business
1%
Other
Transportation
12%
Residential
Pacific Basin
(No Data)
Federated States of Micronesia
Palau
Marshall Islands
American Samoa
Guam
Hawaii
Alaska
(No Data)
Puerto Rico/Virgin Islands
NRCS region boundaries
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC July 1997
Map ID: 2078
For proper interpretation, see Explanation
of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: National Resources Inventory, 1982

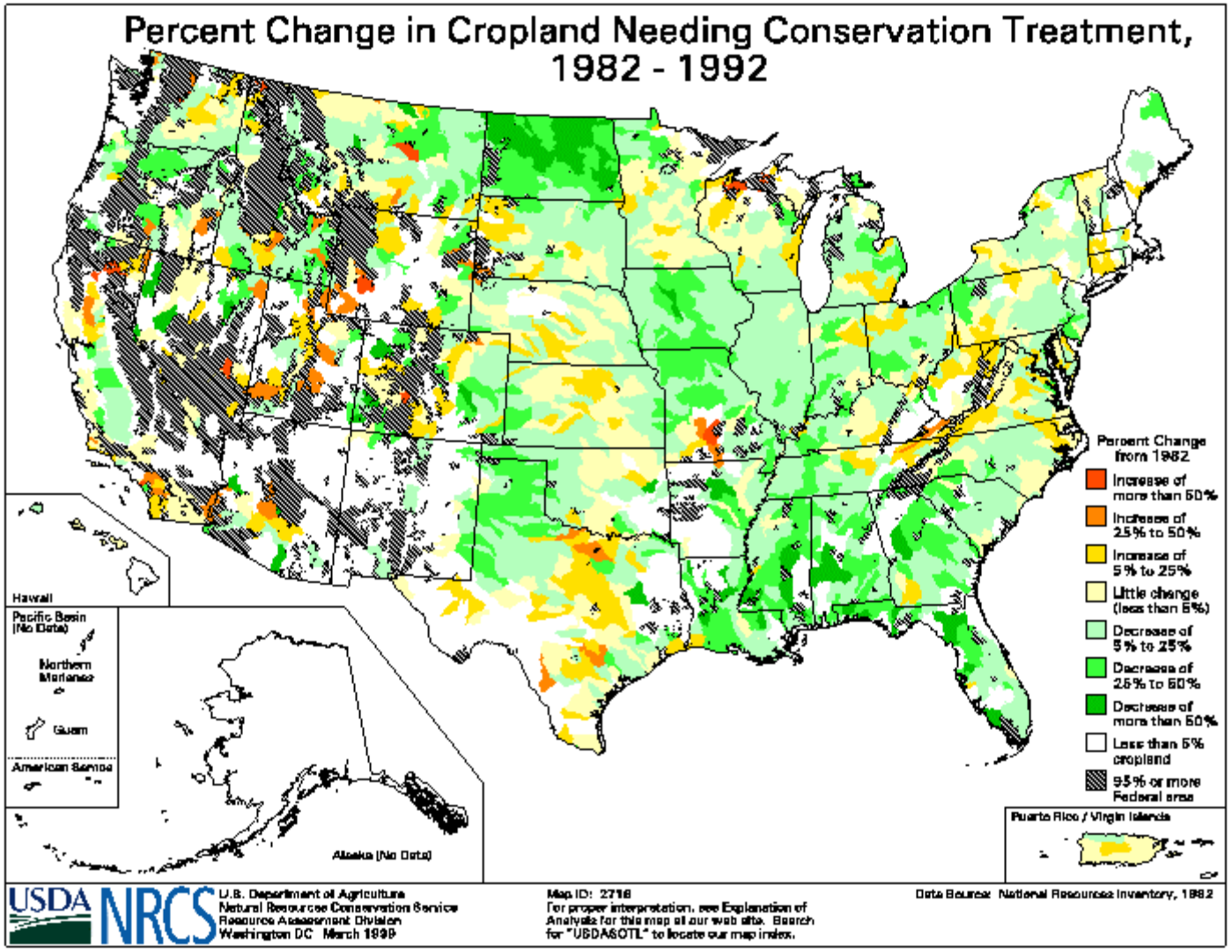

Acres Converted to Developed Land, 1982 - 1992
86% or more Federal area
Each dot represents 1,000 acres of land converted to developed land
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / U.S. Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment Division
Washington DC February 1999
Map ID: 3914
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: National Resources Inventory, 1992

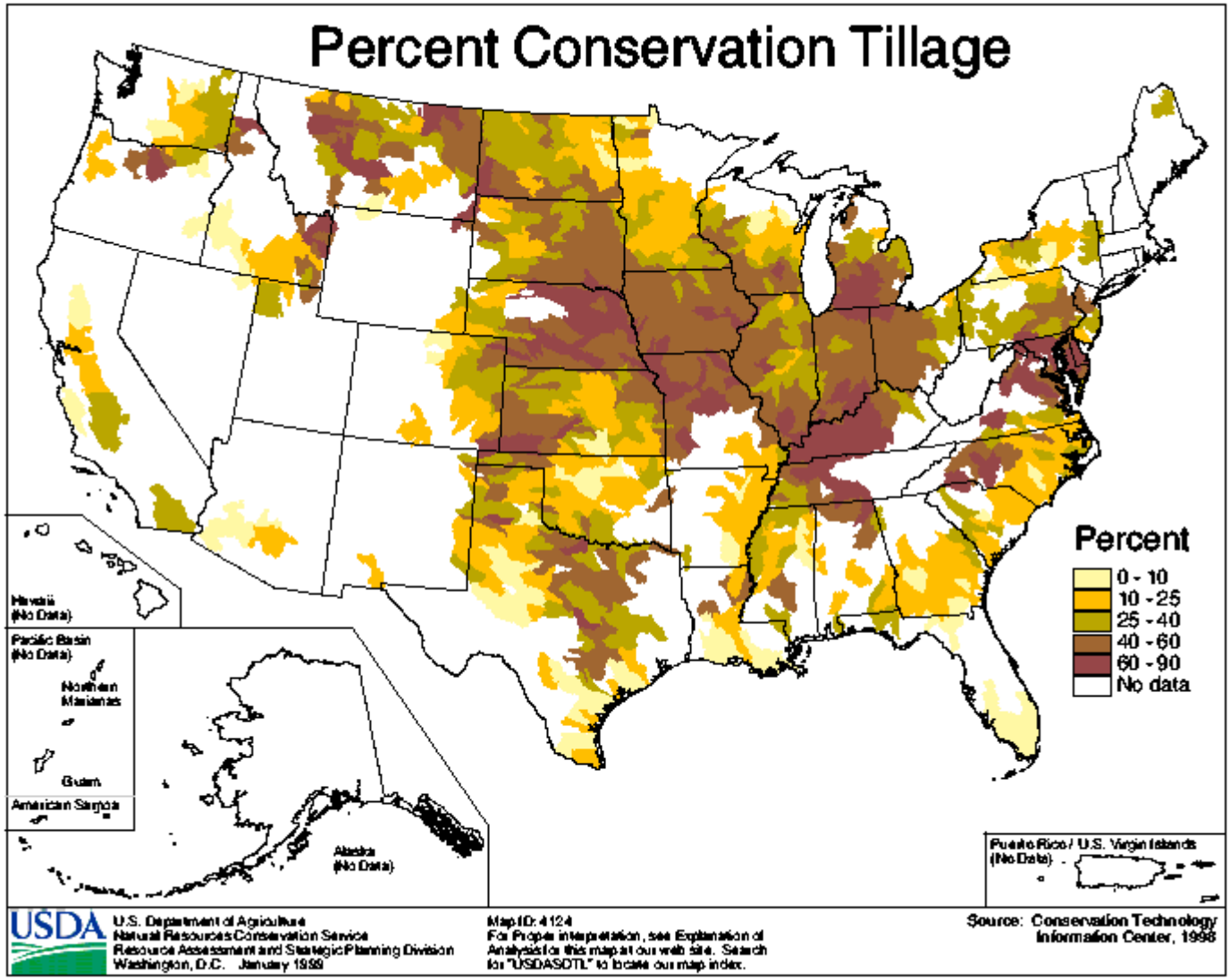

Value of Agricultural Production
by Proximity to Metro Areas
Legend
Metro County
Adjacent to Metro County
Not Adjacent to Metro County
U.S. Total
(Not scaled to state pies)
$162.5 Billion
Pies are scaled between the smallest, Alaska, (0.16 in. radius, $14 Million) and the largest, California (0.75 in. radius, $17 Billion).
Pacific Basin (No Data)
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii
Alaska
(No Data)
Puerto Rico / Virgin Islands
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Map ID: m2067 June 1997
Data Source: 1992 Census of Agriculture

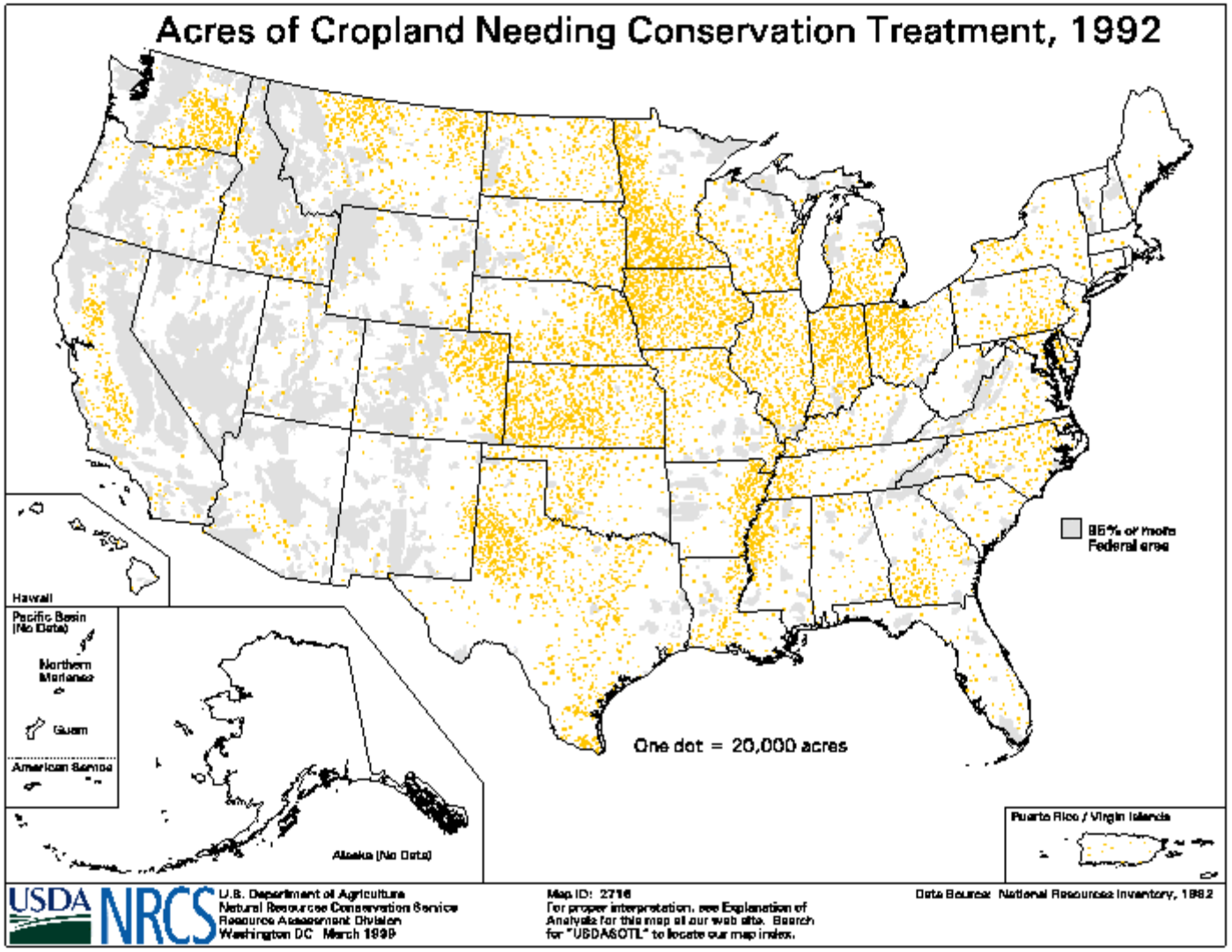

Percent Change in Cropland Area, 1982 - 1992
Percent Change from 1982
Increase of more than 25%
Increase of 5% to 25%
Little change (less than 5%)
Decrease of 5% to 25%
Decrease of more than 25%
No cropland found in sample
85% or more Federal sites
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resource Conservation Service
Resource Assessment Division
Washington DC March 1999
Map ID: 2307
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: National Resources Inventory, 1982
National Resources Inventory, 1992


Average Annual Soil Erosion by Wind and Water
on Cultivated Cropland as a Proportion
of the Tolerable Rate (T), 1982
Actual Soil Loss Rate/ Tolerable Soil Loss Rate (T)
2T or more
T - 2T
NRCS region boundaries
This map excludes areas where cultivated cropland is less than 5% of the total surface area and areas that are 95% or more federal land.
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resource Conservation Service
Resource Assessment Division
Washington DC February 1999
Map ID: 2078
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: 1992 National Resources Inventory

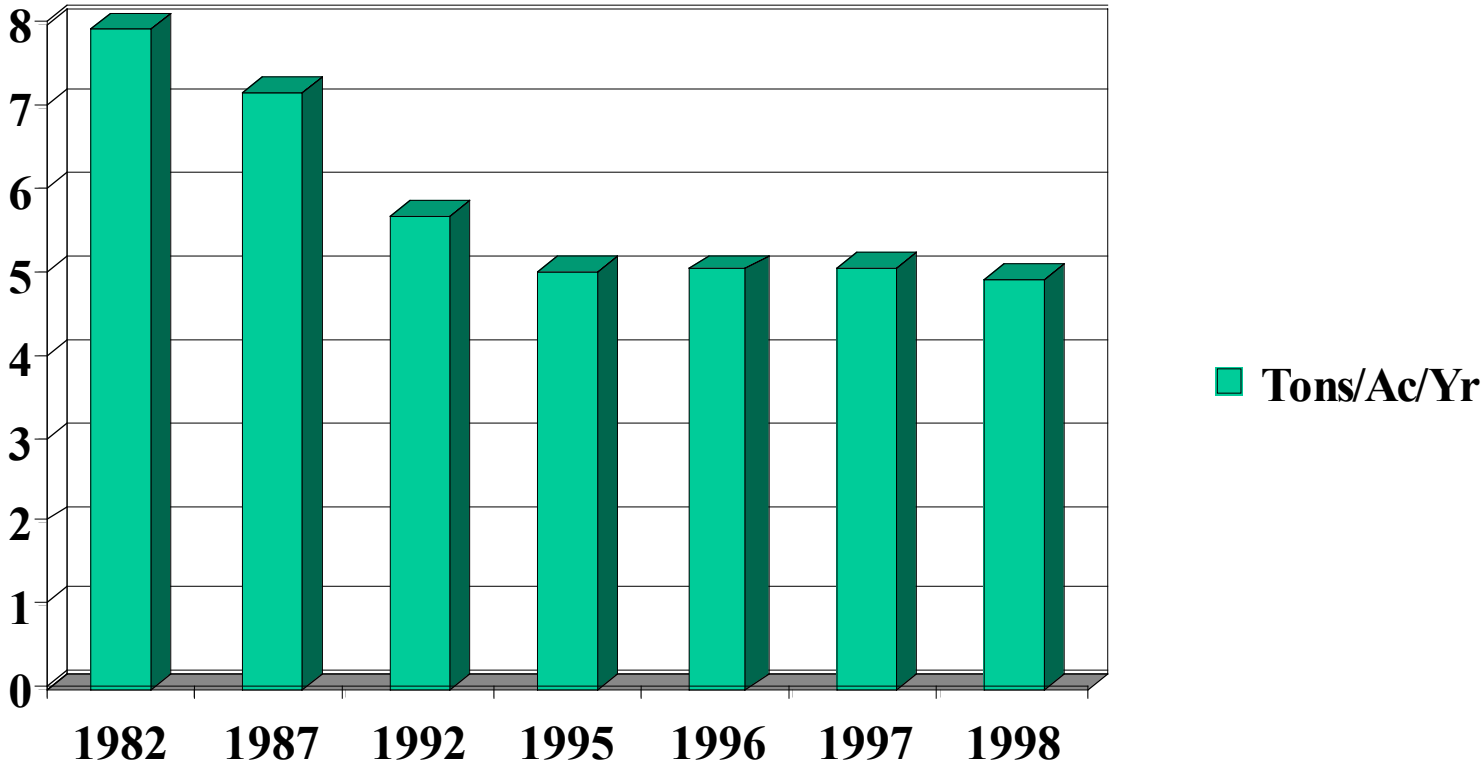

Average Annual Soil Erosion by Wind and Water
on Cultivated Cropland as a Proportion
of the Tolerable Rate (T), 1992
Actual Soil Loss Rate/ Tolerable Soil Loss Rate (T)
2T or more
T - 2T
NRCS region boundaries
This map excludes areas where cultivated cropland is less than 5% of the total surface area and areas that are 95% or more federal land.
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resource Conservation Service
Resource Assessment Division
Washington DC February 1999
Map ID: 2084
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: 1992 National Resources Inventory

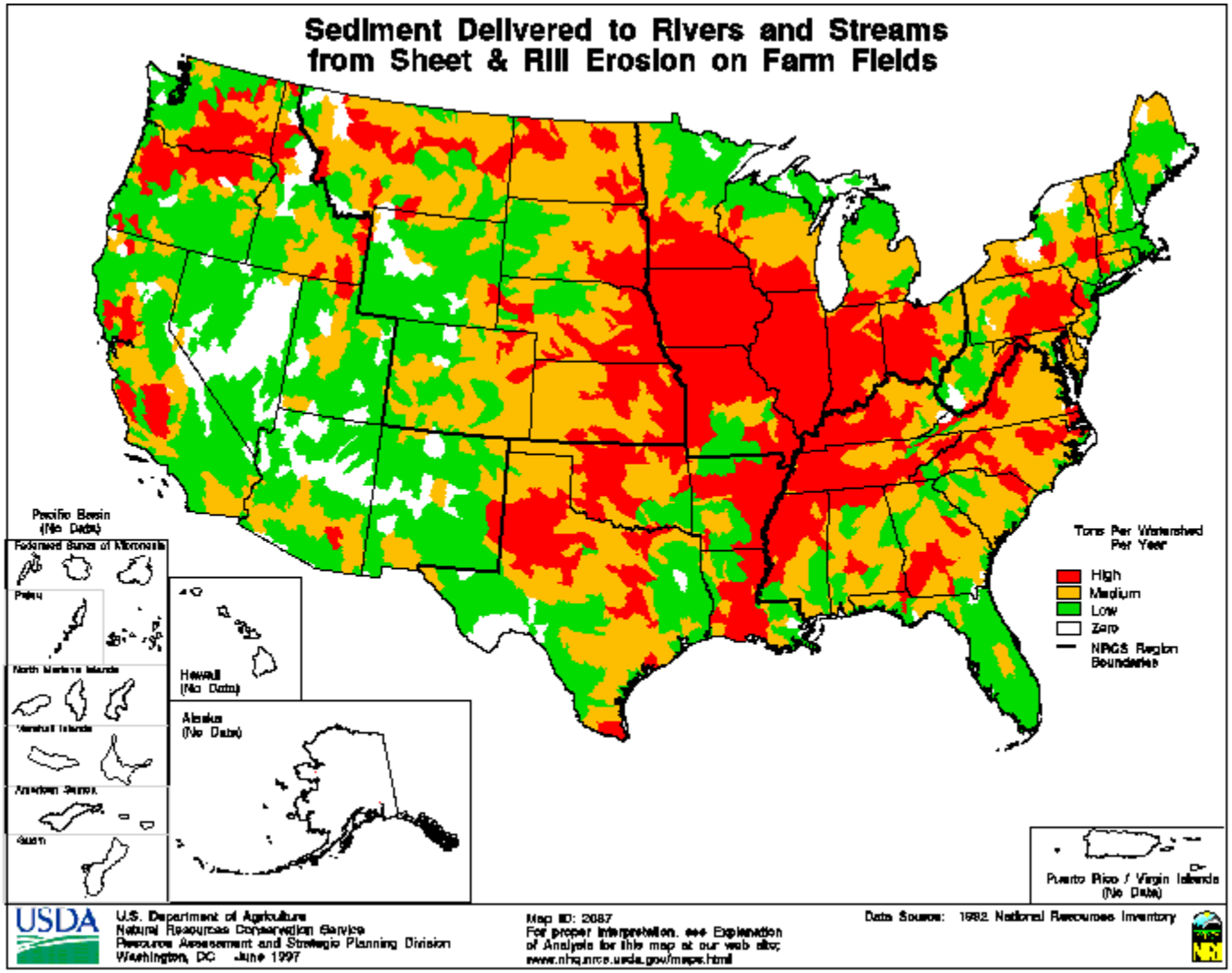

Percent Change in Cropland Needing Conservation Treatment, 1982 - 1992
Percent Change from 1982
Increase of more than 50%
Increase of 25% to 50%
Increase of 5% to 25%
Little change (less than 5%)
Decrease of 5% to 25%
Decrease of 25% to 50%
Decrease of more than 50%
Less than 5% cropland
95% or more Federal area
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resource Conservation Service
Resource Assessment Division
Washington DC March 1999
Map ID: 2716
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: National Resources Inventory, 1982

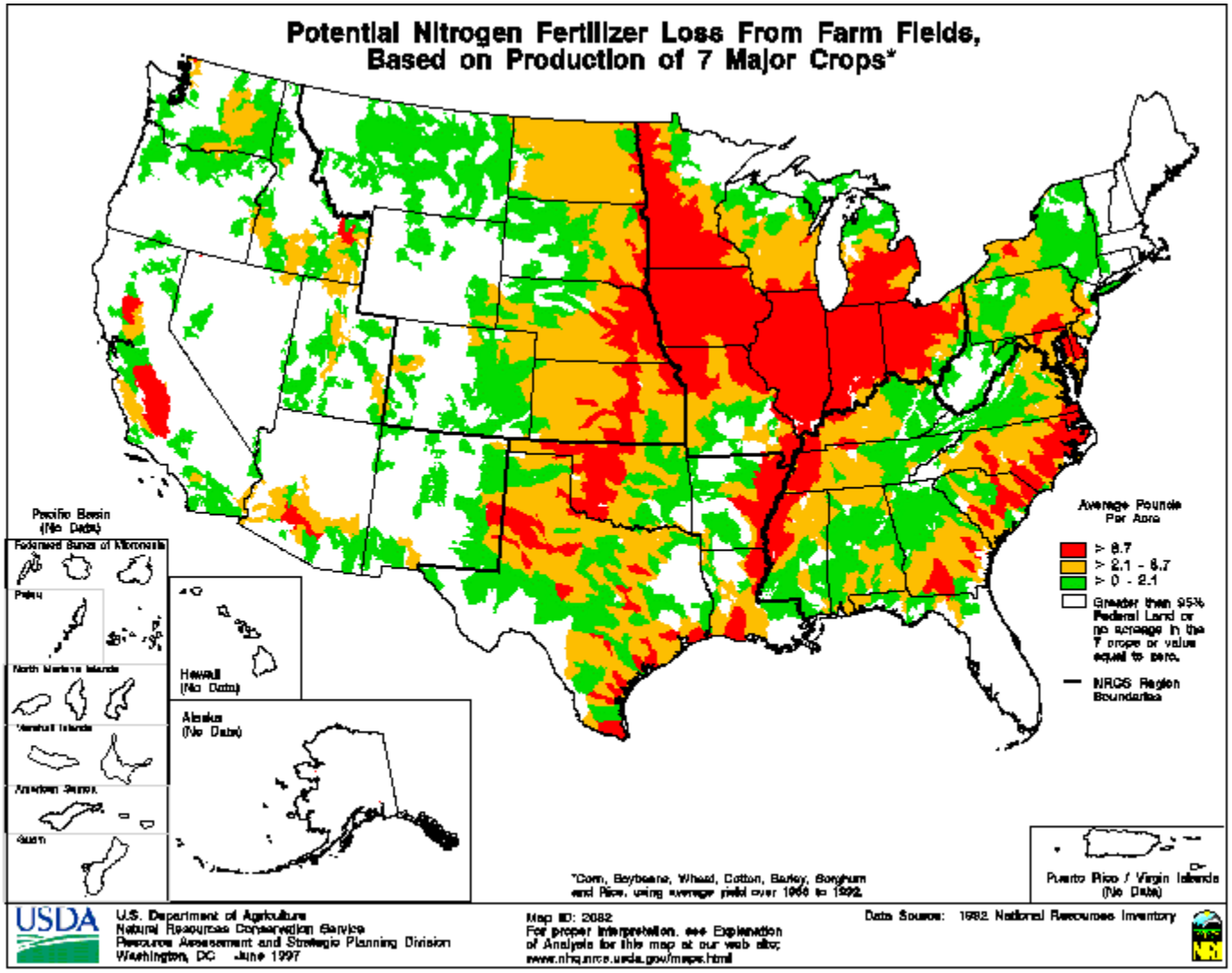

Percent Conservation Tillage
Percent
0 - 10
10 - 25
25 - 40
40 - 60
60 - 90
No data
Hawaii
(No Data)
Pacific Basin
(No Data)
Northern
Marianas
Guam
American Samoa
Alaska
(No Data)
Puerto Rico / U.S. Virgin Islands
(No Data)
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington, D.C. January 1999
Map ID: 4124
For Proper Interpretation, see Explanation of
Analysis for this map at our web site. Search
for "USDASOTL" to locate our map index.
Source: Conservation Technology
Information Center, 1998

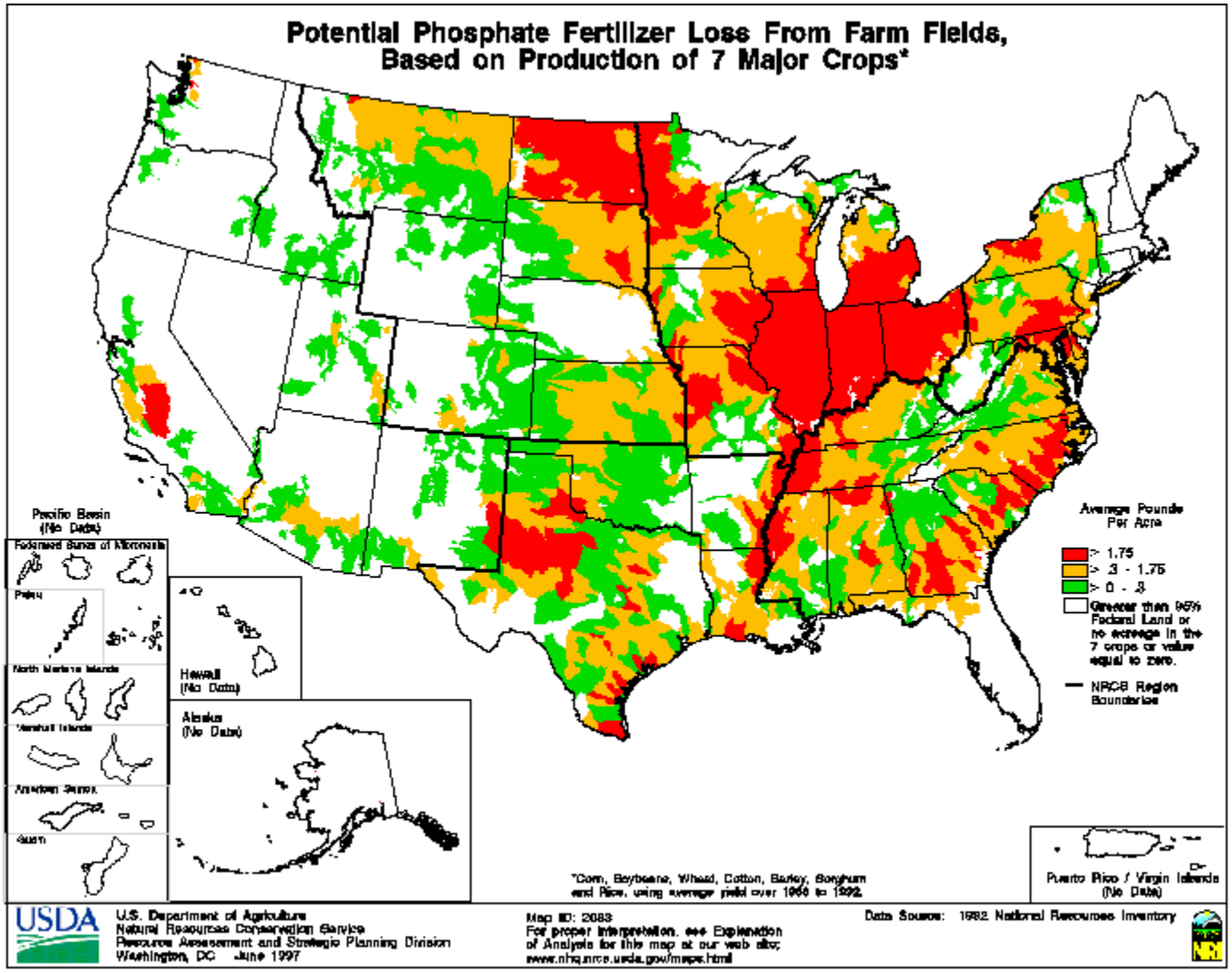

Acres of Cropland Needing Conservation Treatment, 1992
86% or more Federal area
One dot = 20,000 acres
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resource Conservation Service
Resource Assessment Division
Washington DC March 1999
Map ID: 2716
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: National Resources Inventory, 1992

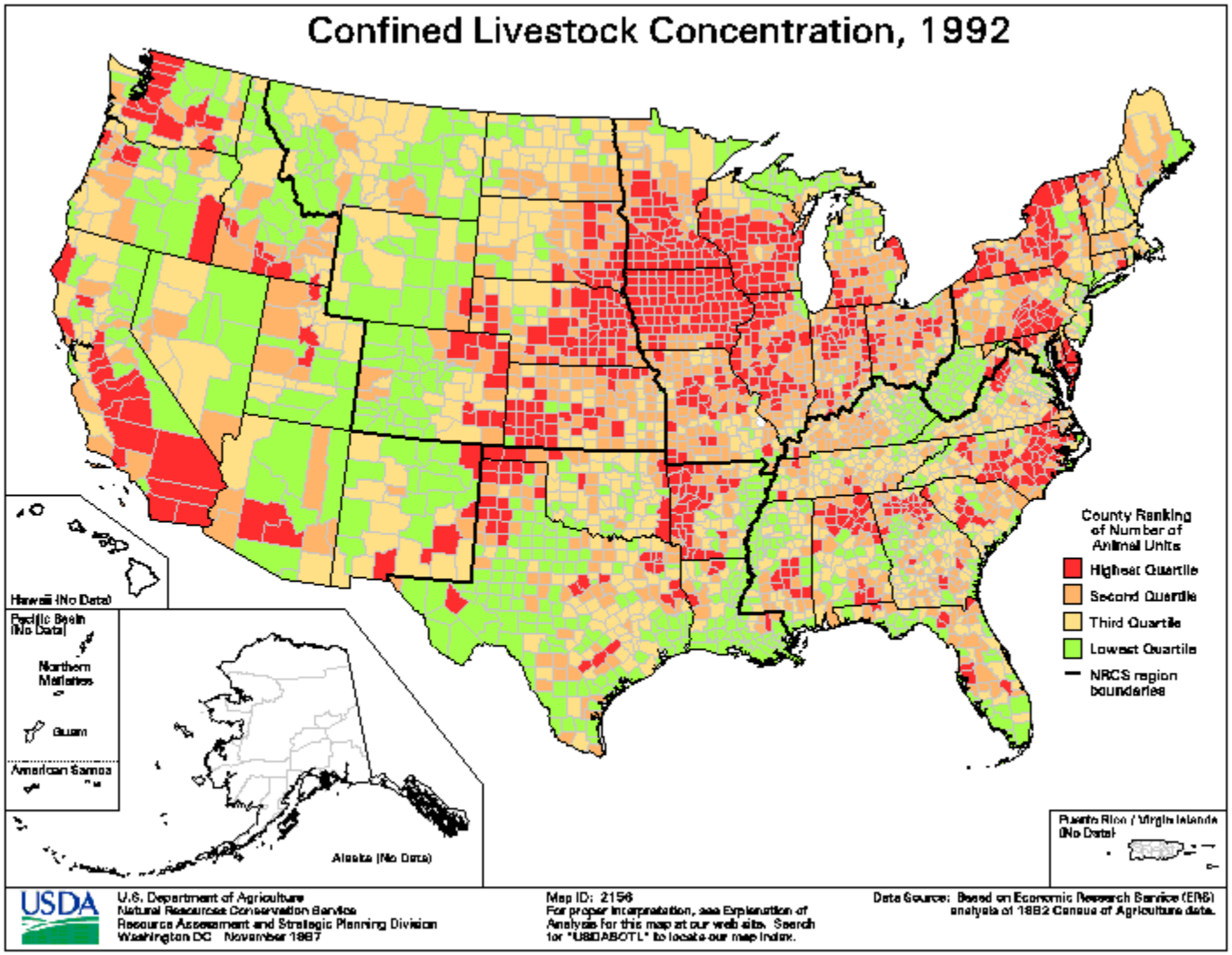
History of Soil Loss Reduction Wind and Water Erosion

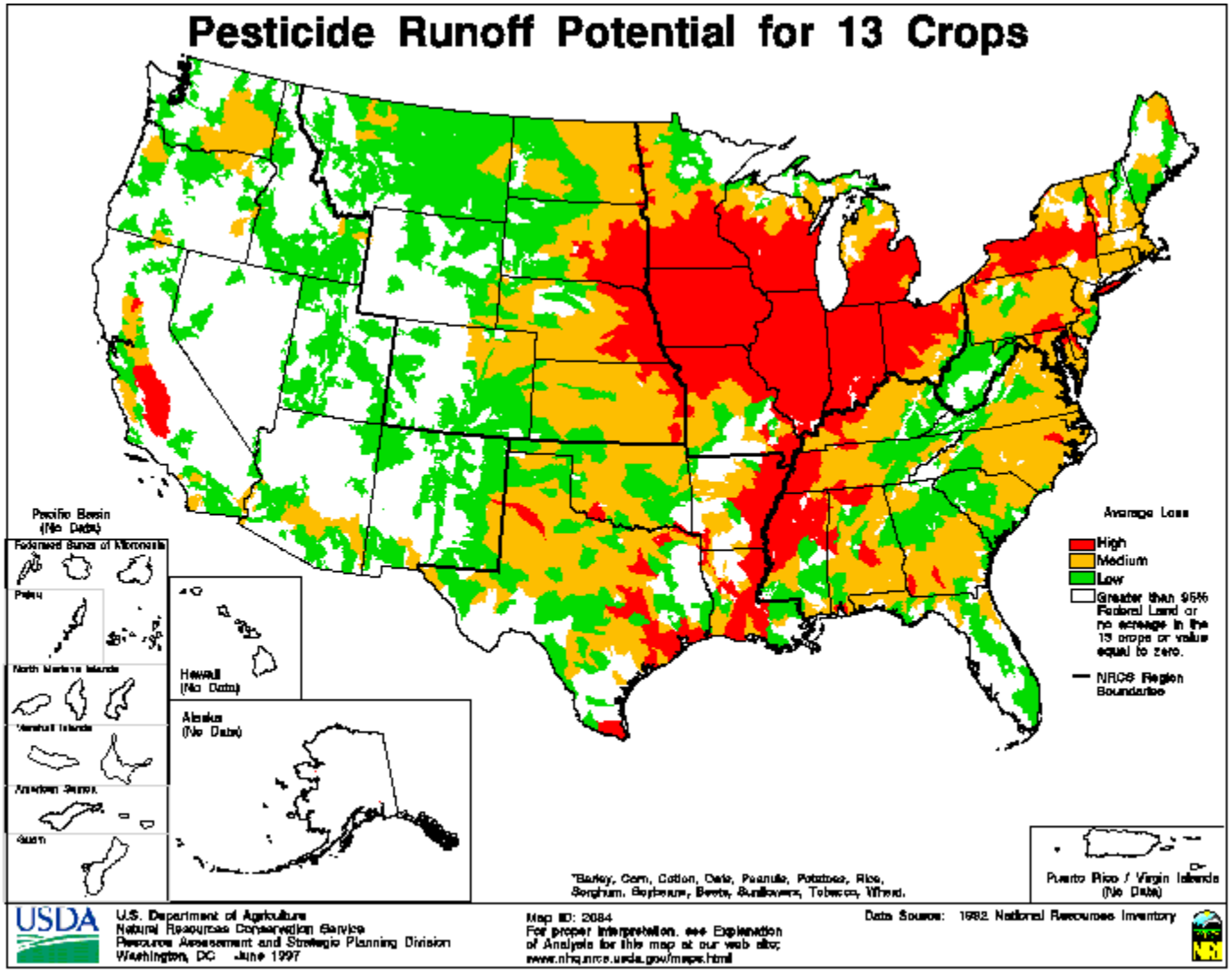


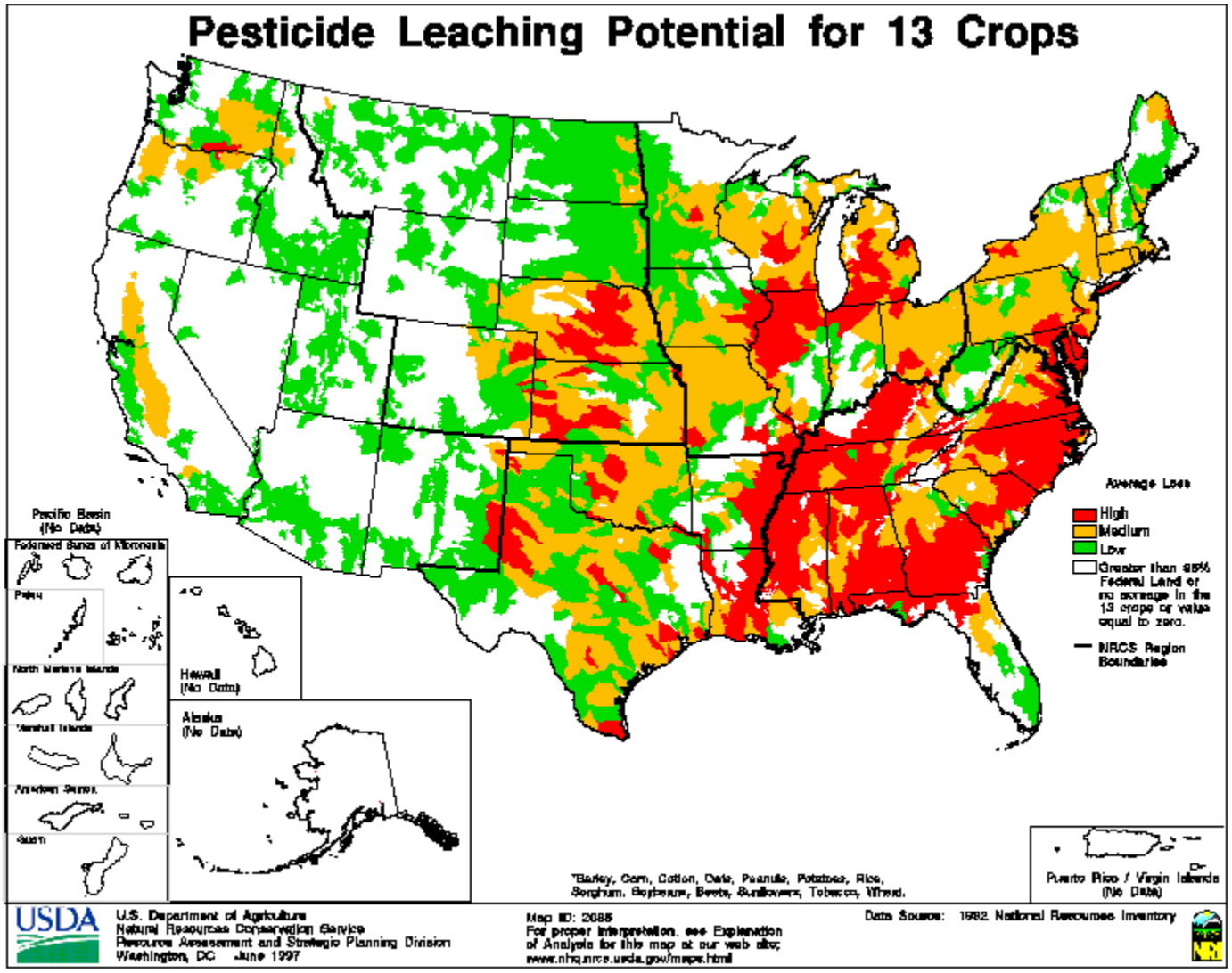

Sediment Delivered to Rivers and Streams
from Sheet & Rill Erosion on Farm Fields
Tons Per Watershed
Per Year
High
Medium
Low
Zero
NRCS Region
Boundaries
Pacific Basin
(No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii
(No Data)
Alaska
(No Data)
Puerto Rico / Virgin Islands
(No Data)
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington, DC June 1997
Map ID: 2087
For proper interpretation, see Explanation
of Analysis for this map at our web site;
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory


Potential Nitrogen Fertilizer Loss From Farm Fields,
Based on Production of 7 Major Crops*
Average Pounds Per Acre
> 8.7
> 2.1 - 8.7
> 0 - 2.1
Greater than 95% Federal Land or no acreage in the 7 crops or value equal to zero.
NRCS Region Boundaries
Pacific Basin (No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii (No Data)
Alaska (No Data)
Puerto Rico / Virgin Islands (No Data)
*Corn, Soybeans, Wheat, Cotton, Barley, Sorghum and Rice, using average yield over 1966 to 1992.
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington, DC June 1997
Map ID: 2082
For proper interpretation, see Explanation of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory


Potential Phosphate Fertilizer Loss From Farm Fields,
Based on Production of 7 Major Crops*
Average Pounds Per Acre
> 1.75
> .3 - 1.75
> 0 - .3
Greater than 95% Federal Land or no acreage in the 7 crops or value equal to zero.
NRCS Region Boundaries
Pacific Basin (No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii (No Data)
Alaska (No Data)
Puerto Rico / Virgin Islands (No Data)
*Corn, Soybeans, Wheat, Cotton, Barley, Sorghum and Rice, using average yield over 1966 to 1992.
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington, DC June 1997
Map ID: 2083
For proper interpretation, see Explanation of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory


Confined Livestock Concentration, 1992
County Ranking of Number of Animal Units
Highest Quartile
Second Quartile
Third Quartile
Lowest Quartile
NRCS region boundaries
Hawaii (No Data)
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands (No Data)
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC November 1997
Map ID: 2156
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: Based on Economic Research Service (ERS) analysis of 1992 Census of Agriculture data.

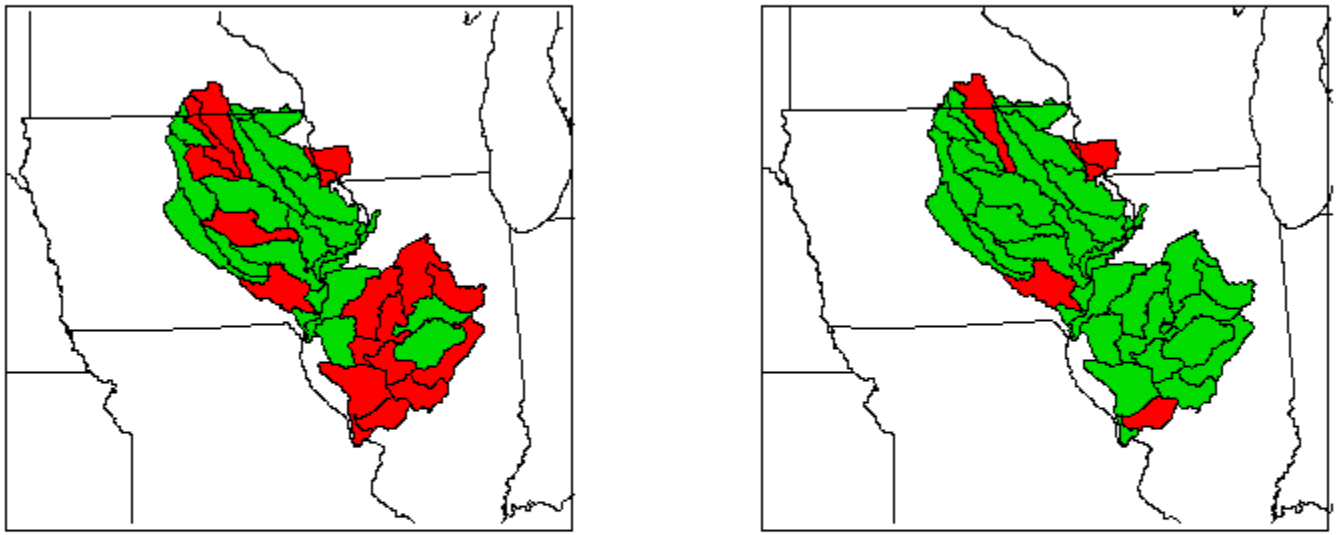

Pesticide Runoff Potential for 13 Crops
Pacific Basin
(No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii
(No Data)
Alaska
(No Data)
Average Loss
High
Medium
Low
Greater than 95% Federal Land or no acreage in the 13 crops or value equal to zero.
NRCS Region Boundaries
*Barley, Corn, Cotton, Oats, Peanuts, Potatoes, Rice, Sorghum, Soybeans, Beets, Sunflowers, Tobacco, Wheat.
Puerto Rico / Virgin Islands
(No Data)
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington, DC June 1997
Map ID: 2084
For proper interpretation, see Explanation of Analysis for this map at our web site;
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory


Pesticide Leaching Potential for 13 Crops
Average Loss
High
Medium
Low
Greater than 95% Federal Land or no acreage in the 13 crops or value equal to zero.
NRCS Region Boundaries
Pacific Basin (No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii (No Data)
Alaska (No Data)
Puerto Rico / Virgin Islands (No Data)
*Barley, Corn, Cotton, Oats, Peanuts, Potatoes, Rice, Sorghum, Soybeans, Beets, Sunflowers, Tobacco, Wheat.
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington, DC June 1997
Map ID: 2085
For proper interpretation, see Explanation of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory

Potential Environmental Risk from Pesticides

Under Current
Farm Management Practices

After Simulating Adoption of Alternative
Farm Management Practices



Risk to Fish from
Concentration of
Pesticides in Water
Leaving Farm Fields

Relatively High Risk

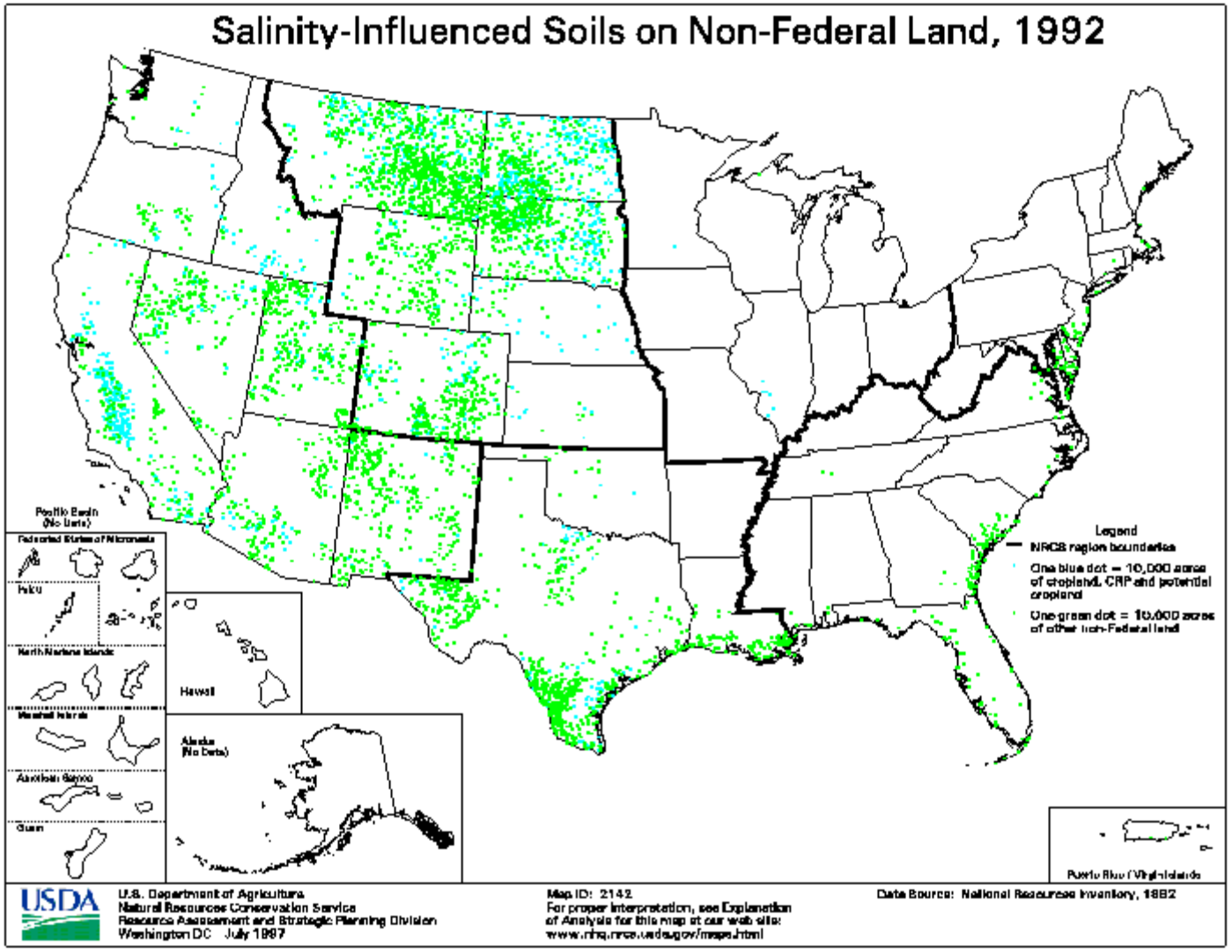
Relatively Low Risk

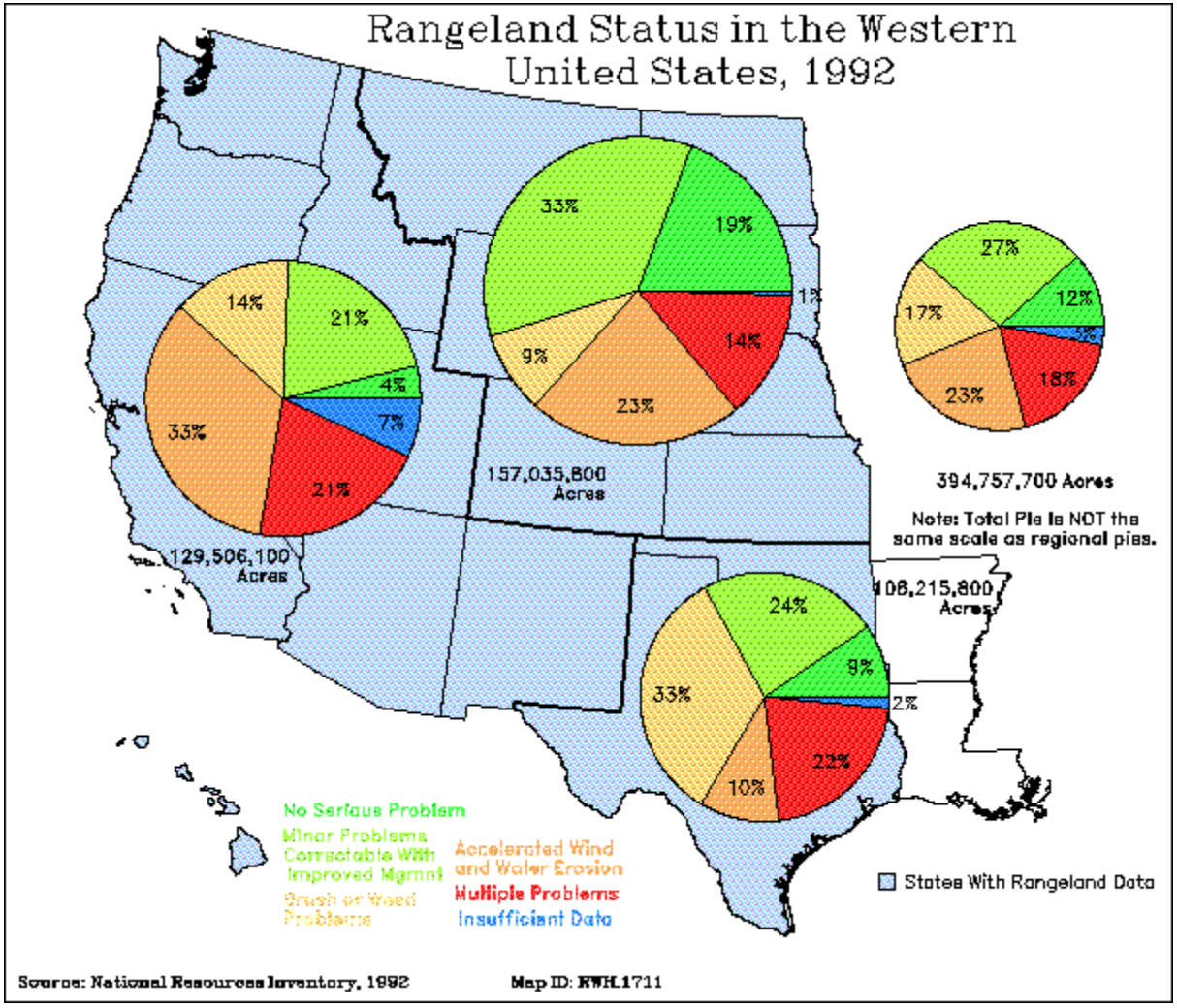
USDA

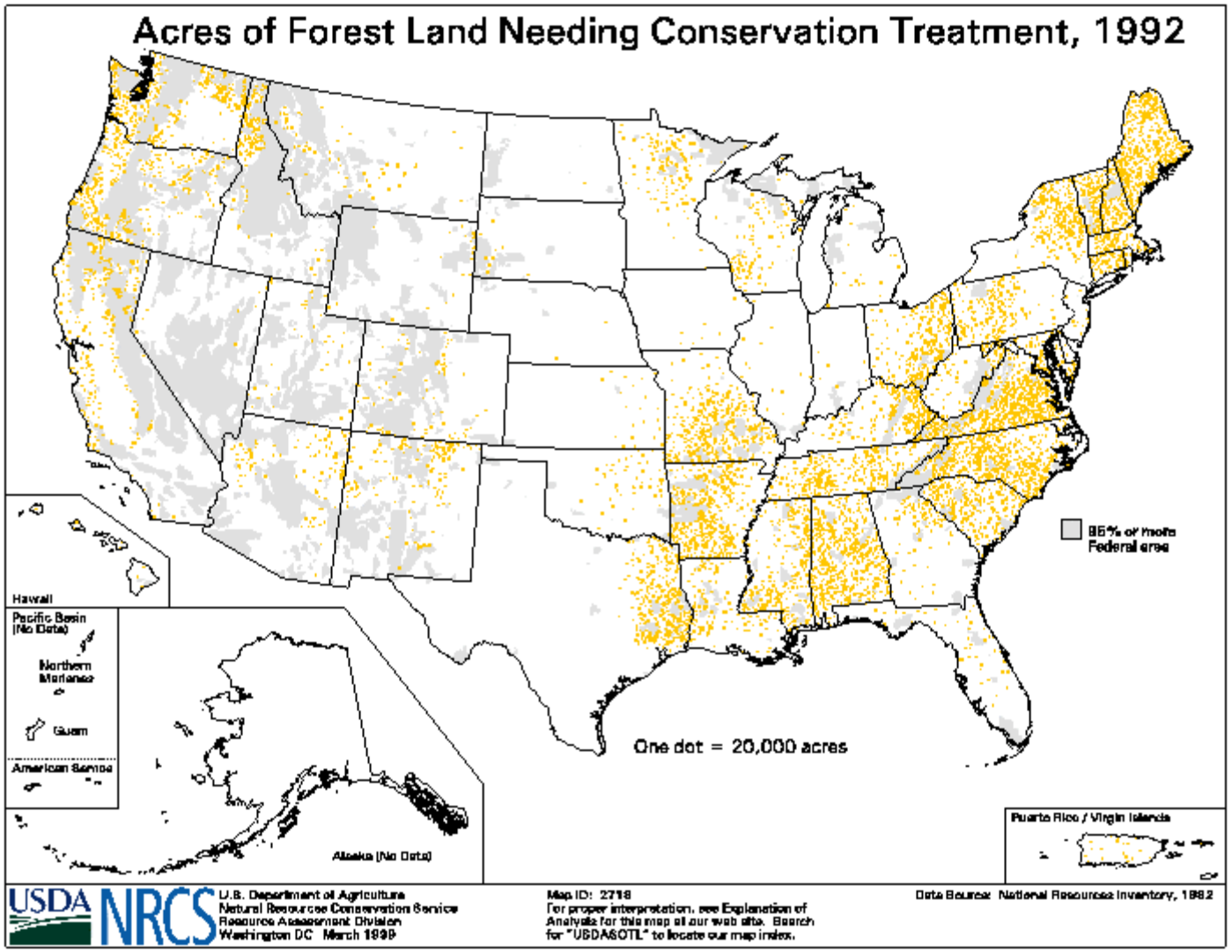
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington, DC June 1997

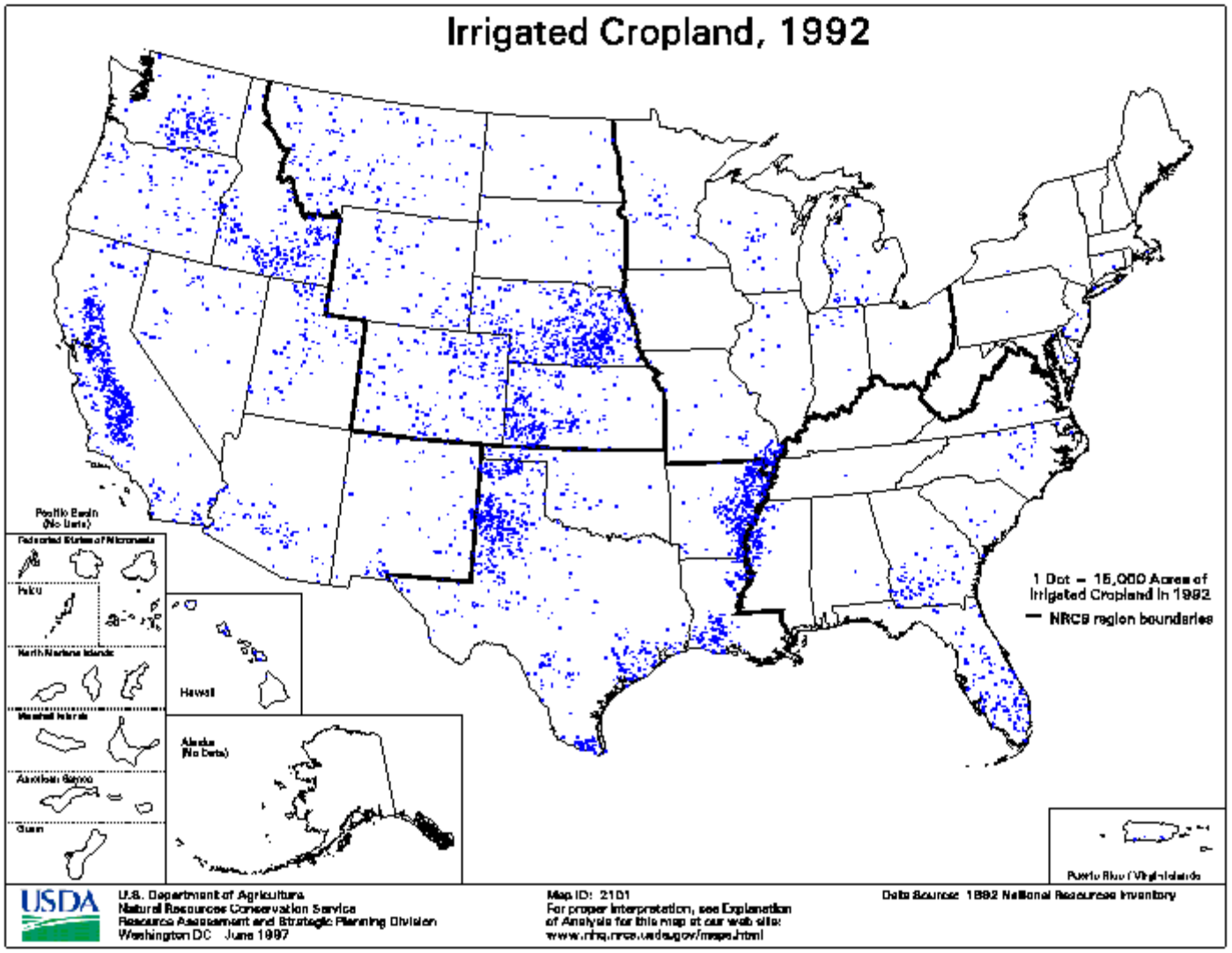
Map ID: 2088
For proper interpretation, see Explanation
of Analysis for this map at our web site;
www.nhq.nrcs.usda.gov/maps.html

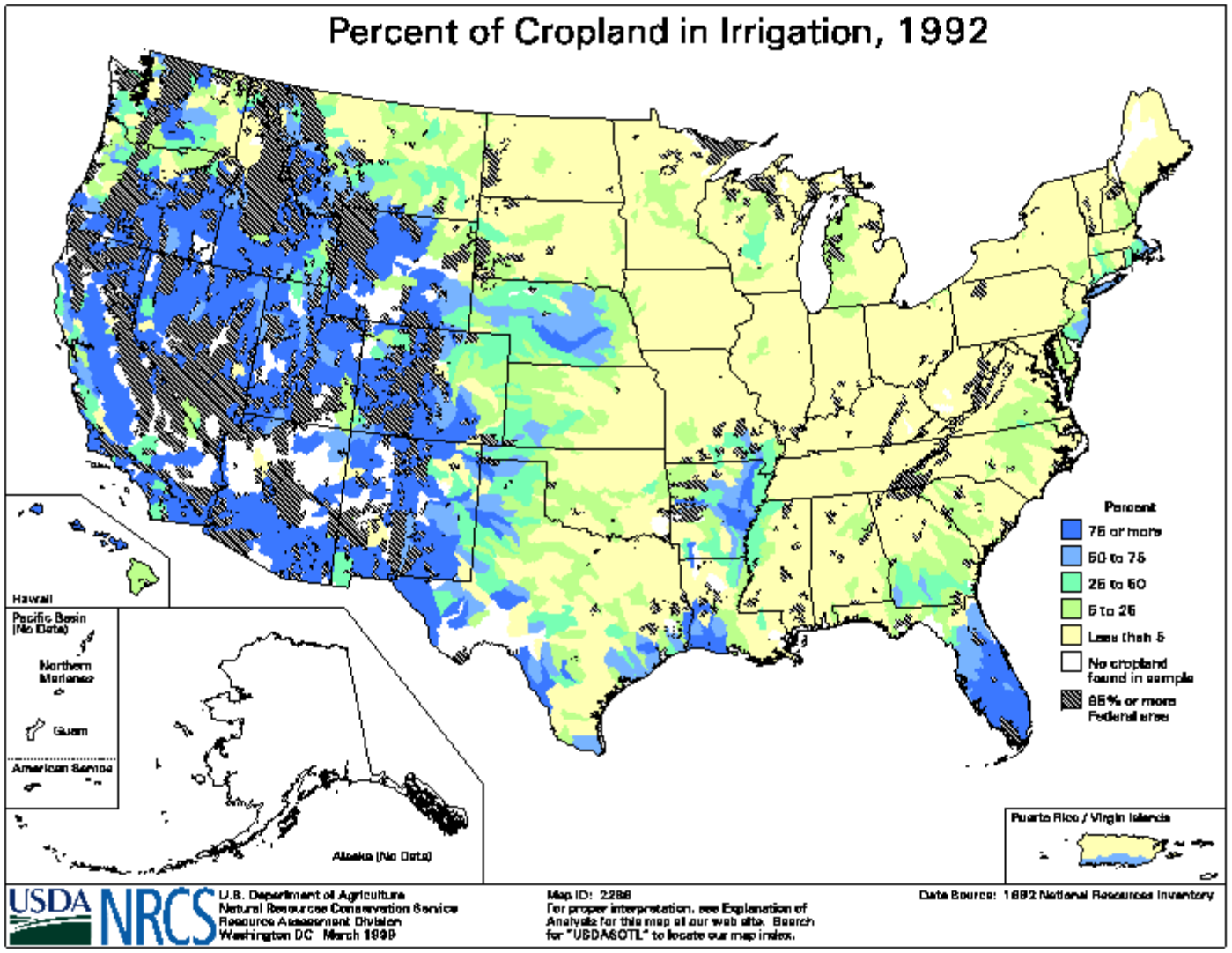
Data Source: 1992 National Resources Inventory

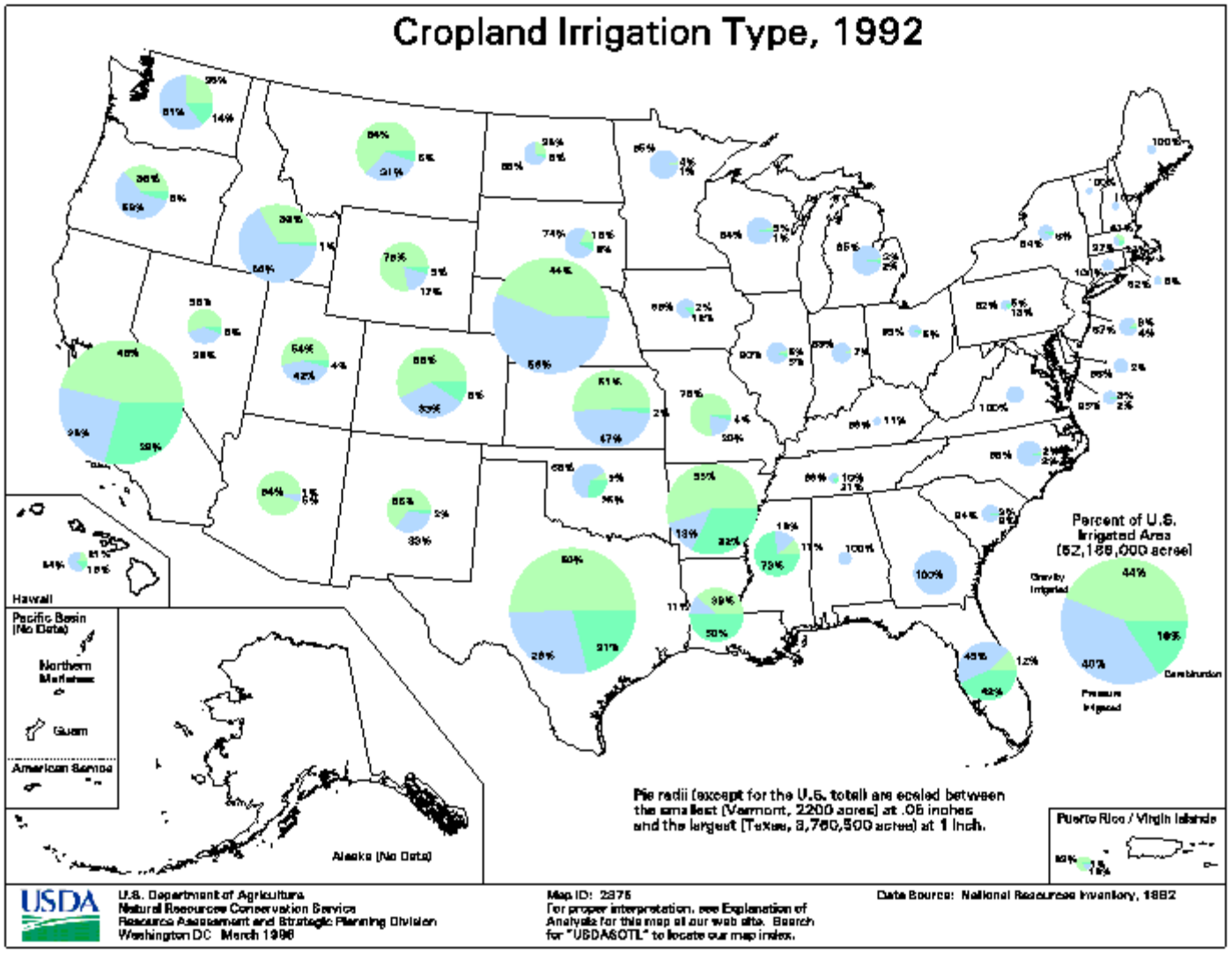

Salinity-Influenced Soils on Non-Federal Land, 1992
Pacific Basin
(No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Hawaii
Alaska
(No Data)
Legend
NRCS region boundaries
One blue dot = 10,000 acres of cropland, CRP and potential cropland
One green dot = 10,000 acres of other non-Federal land
Puerto Rico / Virgin Islands
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC July 1997
Map ID: 2142
For proper interpretation, see Explanation of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: National Resources Inventory, 1992

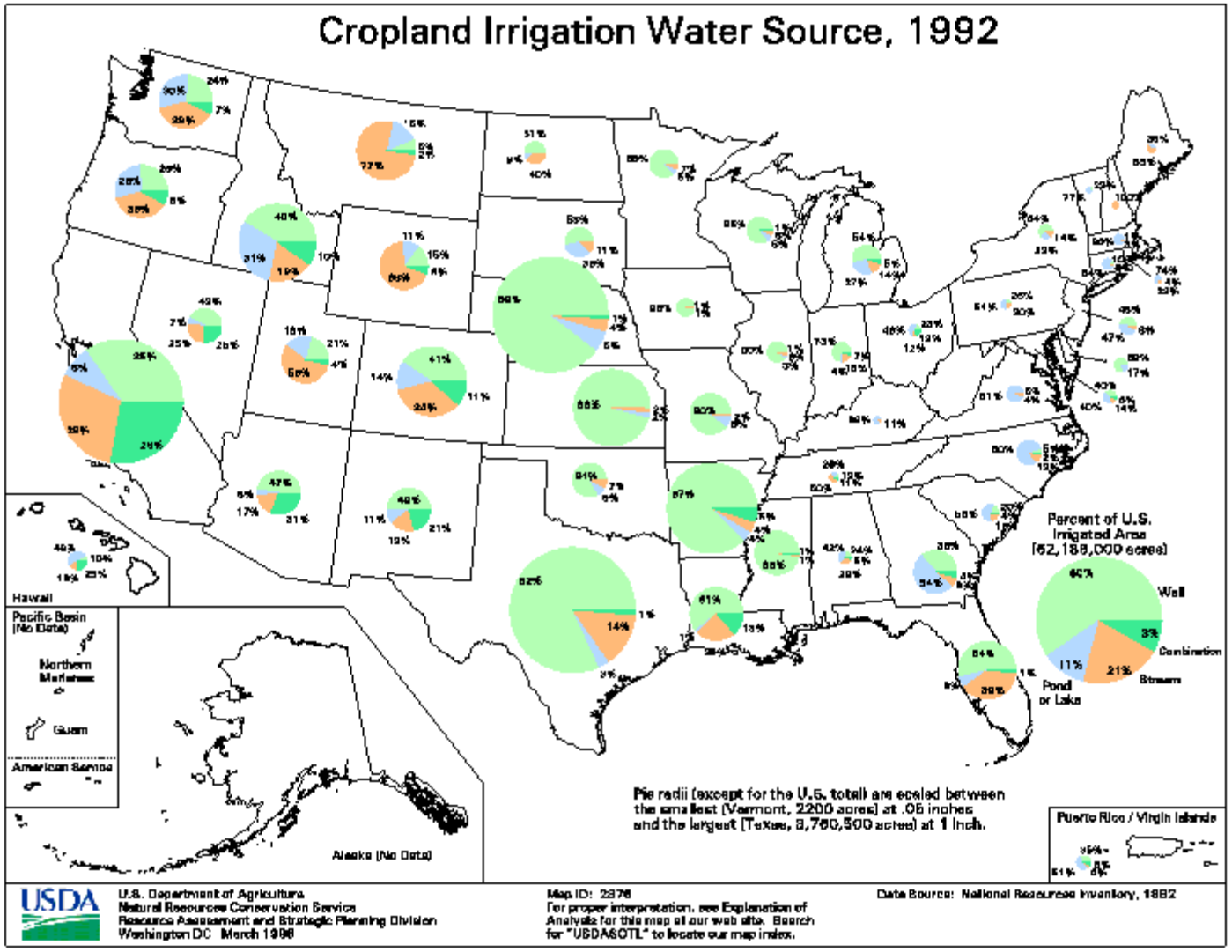

Rangeland Status in the Western United States, 1992
33%
19%
1%
14%
9%
23%
157,035,800 Acres
27%
12%
17%
3%
23%
18%
394,757,700 Acres
Note: Total Pie is NOT the same scale as regional pies.
14%
21%
4%
7%
33%
21%
129,506,100 Acres
108,215,800 Acres
24%
9%
33%
2%
22%
10%
No Serious Problem
Minor Problems Correctable With Improved Mgmnt
Brush or Weed Problems
Accelerated Wind and Water Erosion
Multiple Problems
Insufficient Data
States With Rangeland Data
Source: National Resources Inventory, 1992
Map ID: RWH1711

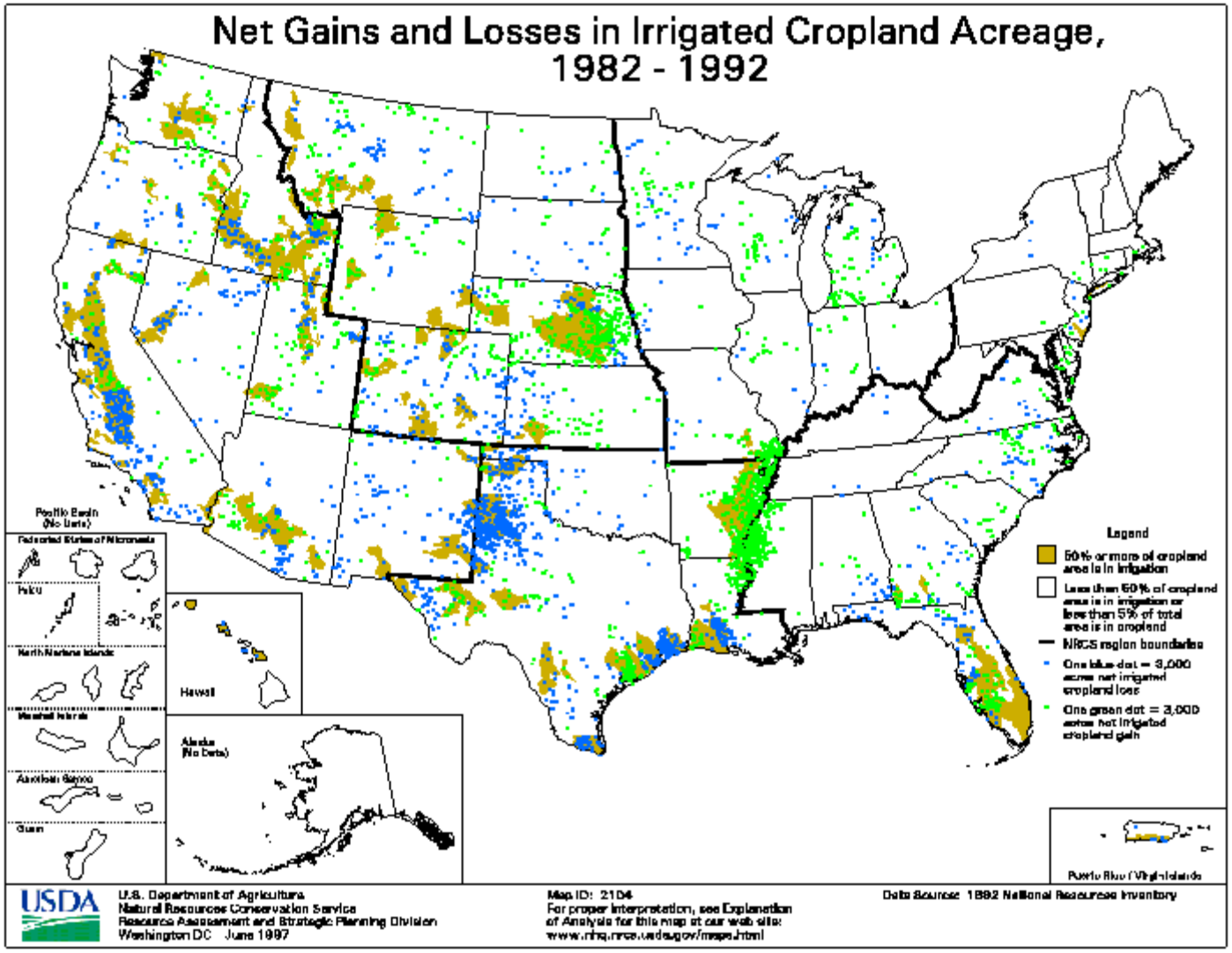

Acres of Forest Land Needing Conservation Treatment, 1992
95% or more Federal area
One dot = 20,000 acres
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resource Conservation Service
Resource Assessment Division
Washington DC March 1999
Map ID: 2718
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: National Resources Inventory, 1992


Irrigated Cropland, 1992
1 Dot = 15,000 Acres of Irrigated Cropland in 1992
NRCS region boundaries
Hawaii
Alaska (No Data)
Guam
Puerto Rico / Virgin Islands
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC June 1997
Map ID: 2101
For proper interpretation, see Explanation of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory

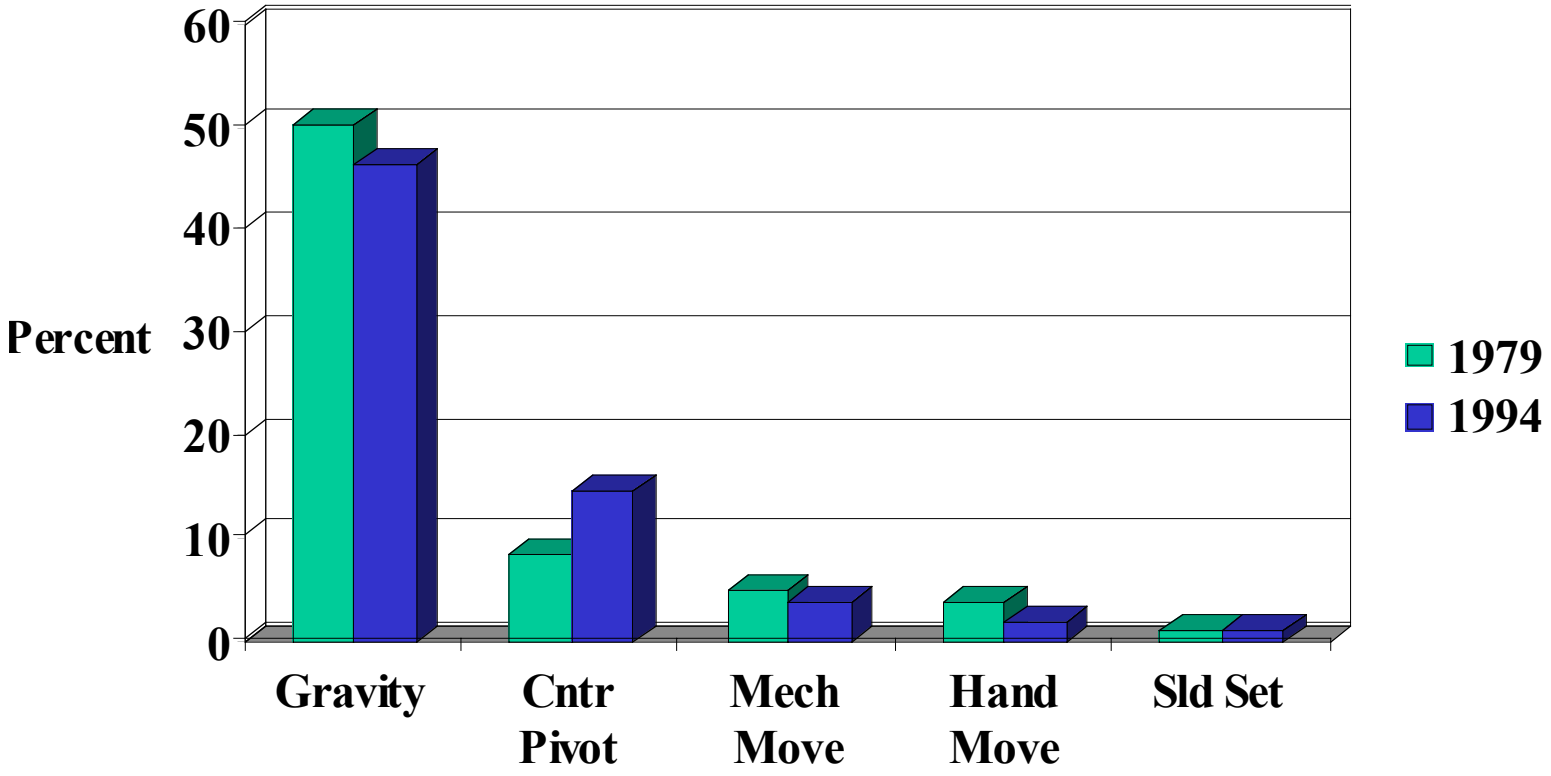

Percent of Cropland in Irrigation, 1992
Percent
75 or more
50 to 75
25 to 50
5 to 25
Less than 5
No cropland found in sample
85% or more Federal area
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
USDA NRCS
U.S. Department of Agriculture
Natural Resource Conservation Service
Resource Assessment Division
Washington DC March 1999
Map ID: 2288
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: 1992 National Resources Inventory


Cropland Irrigation Type, 1992
Percent of U.S. Irrigated Area (52,169,000 acres)
Gravity Irrigated
Pressure Irrigated
Combination
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Puerto Rico / Virgin Islands
Pie radii (except for the U.S. total) are scaled between the smallest (Vermont, 2200 acres) at .06 inches and the largest (Texas, 8,760,500 acres) at 1 inch.
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC March 1996
Map ID: 2375
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: National Resources Inventory, 1992

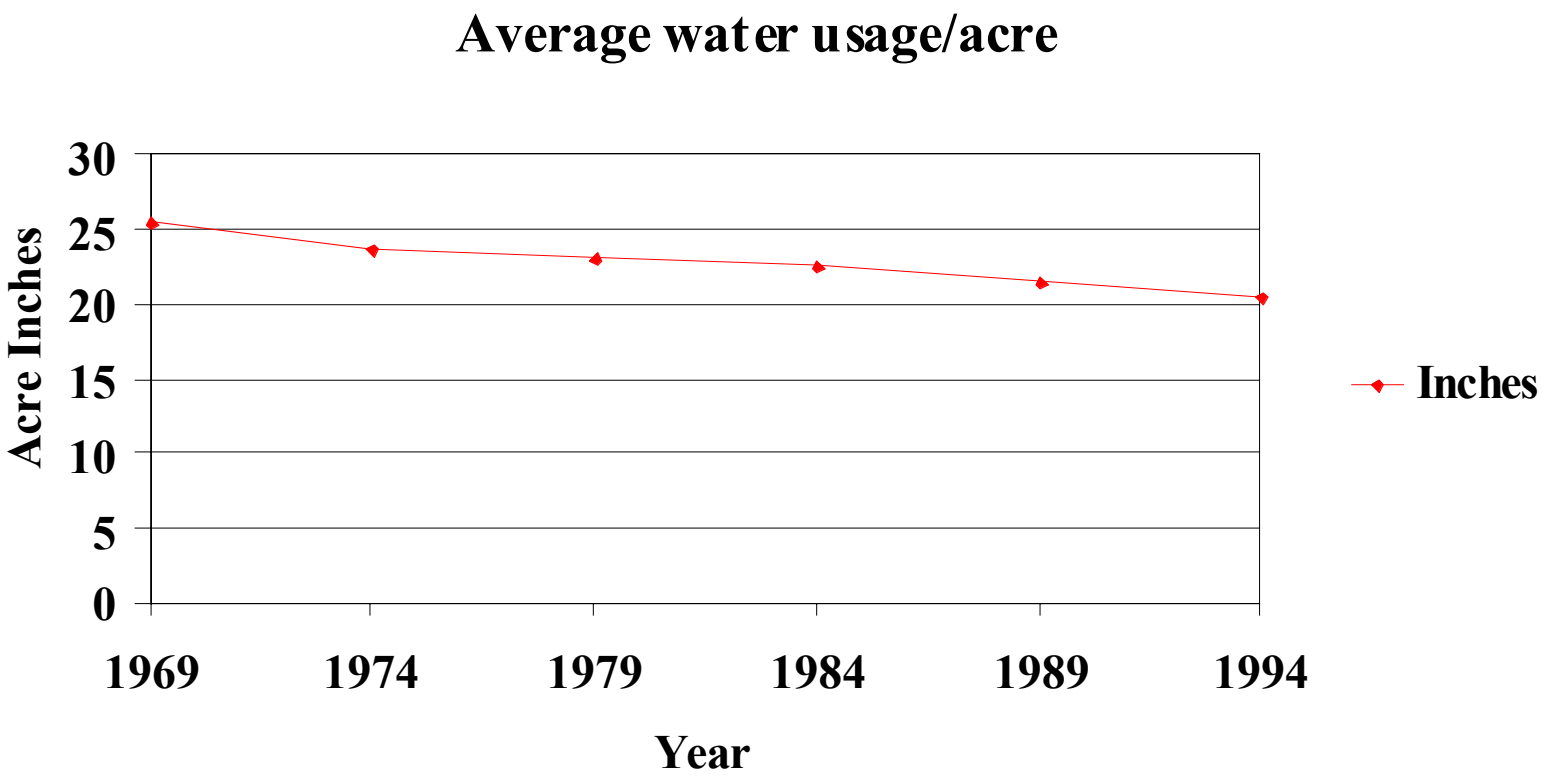

Cropland Irrigation Water Source, 1992
Percent of U.S. Irrigated Area (62,186,000 acres)
Well
Combination
Stream
Pond or Lake
Hawaii
Pacific Basin (No Data)
Northern Marianas
Guam
American Samoa
Alaska (No Data)
Pie radii (except for the U.S. total) are scaled between the smallest (Vermont, 2200 acres) at .06 inches and the largest (Texas, 8,760,500 acres) at 1 inch.
Puerto Rico / Virgin Islands
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC March 1996
Map ID: 2376
For proper interpretation, see Explanation of Analysis for this map at our web site. Search for "USDASOTL" to locate our map index.
Data Source: National Resources Inventory, 1992


Net Gains and Losses in Irrigated Cropland Acreage,
1982 - 1992
Legend
60% or more of cropland area is in irrigation
Less than 60% of cropland area is in irrigation or less than 5% of total area is in cropland
NRCS region boundaries
One blue dot = 3,000 acres net irrigated cropland loss
One green dot = 3,000 acres net irrigated cropland gain
Hawaii
Alaska (No Data)
Pacific Basin (No Data)
Federated States of Micronesia
Palau
North Mariana Islands
Marshall Islands
American Samoa
Guam
Puerto Rico / Virgin Islands
USDA
U.S. Department of Agriculture
Natural Resources Conservation Service
Resource Assessment and Strategic Planning Division
Washington DC June 1997
Map ID: 2104
For proper interpretation, see Explanation of Analysis for this map at our web site:
www.nhq.nrcs.usda.gov/maps.html
Data Source: 1992 National Resources Inventory

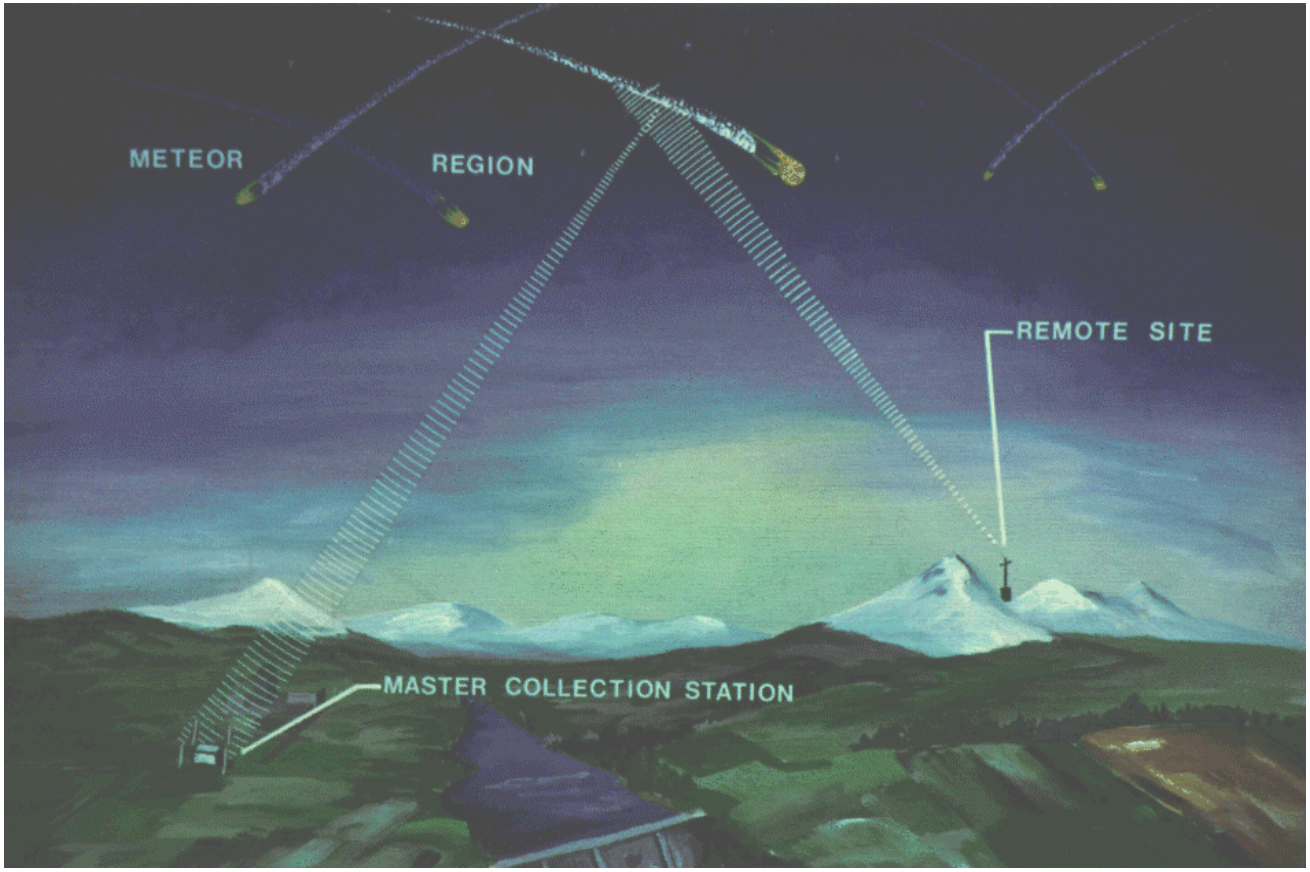
Irrigation System Changes
1979 - 1994



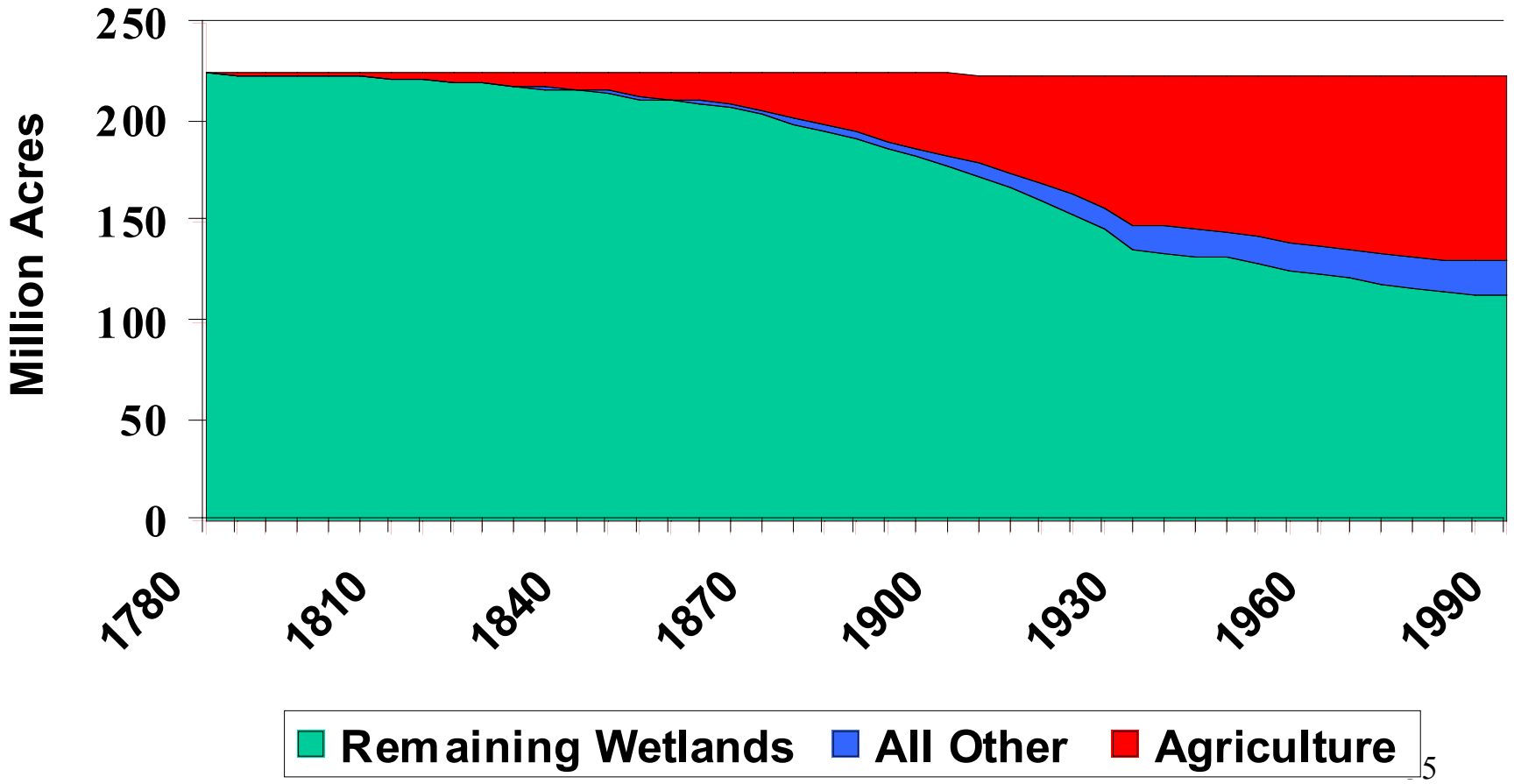
Irrigation application trends



Meteor Burst Communication

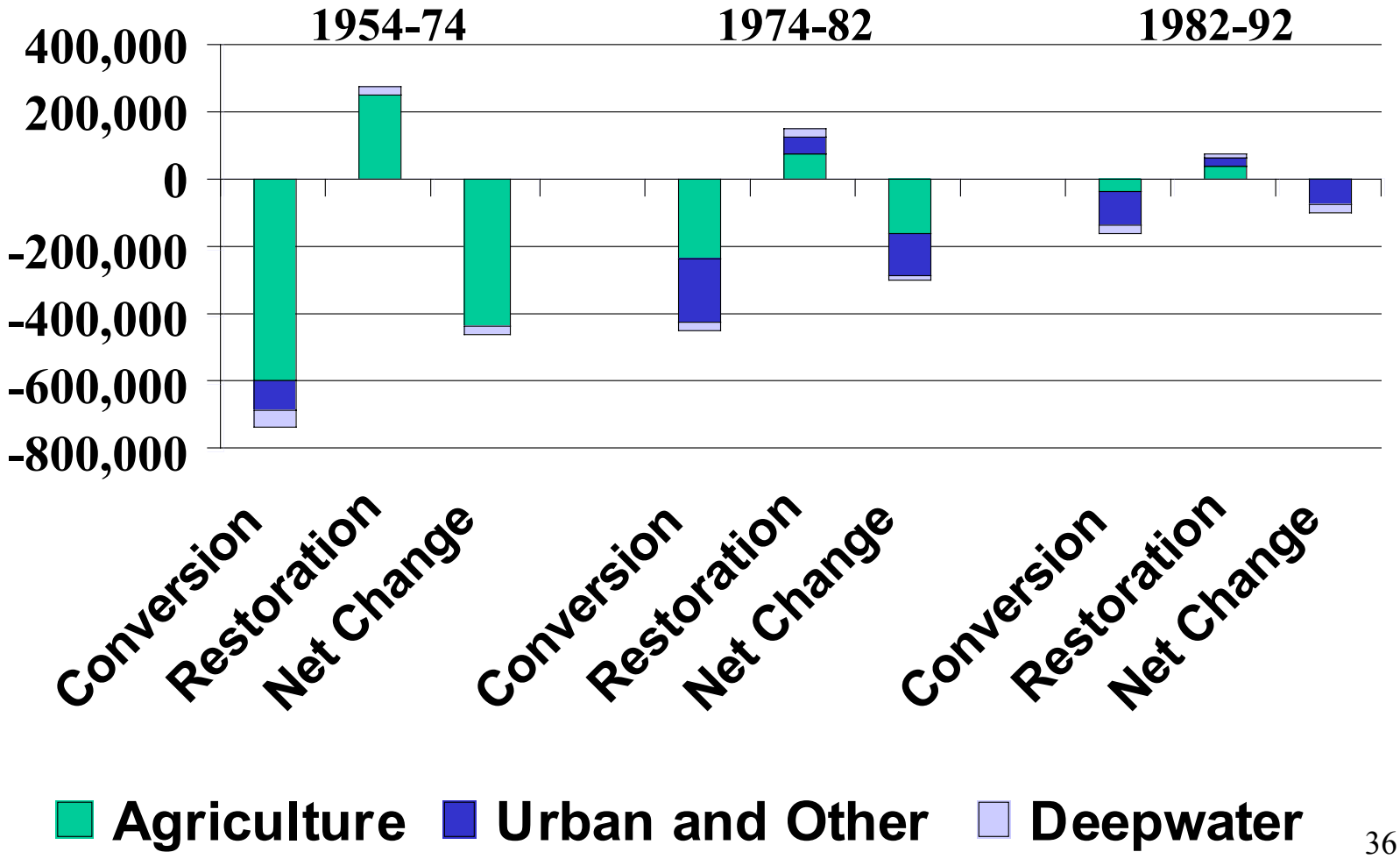


Wetland Losses, 1780-1990



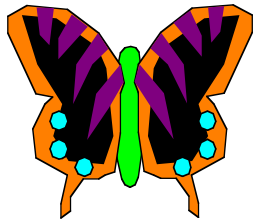
Wetland Losses, 1954-92

Acres Per Year



CONCLUSION

- "Reading the land" is critical in assessing the effectiveness of programs and policy
- Success in achieving sustainability requires good science, technology transfer, and an effective delivery system



CONCLUSION

- We've made excellent progress in balancing our need to produce food and fiber
- Much work needs to be done. Need an
  - Increased effort to reduce erosion
  - Increased effort to properly manage the nutrients and pesticides used in food and fiber production
  - Increased effort to manage and conserve water

State of the Land Web Page

http://www.nhq.nrcs.usda.gov/land/index